

QB
213
C3

UC-NRLF



QC 24 619

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[California, University. Leuschner Observatory]

Reduction of Observations for Time. A, B, C constants
for the latitude of the Leuschner observatory.

Δ = Diurnal Aberration = 0.01679 sec. δ

[n.d.]

:	δ	Δ	:	δ	Δ	:	δ	Δ	:
:	"	s	:	"	s	:	"	s	:
:	0	0.017	:	60	0.033	:	70	0.048	:
:	+10	.017	:	61	.034	:	71	.051	:
:	20	.018	:	*61°52'.4	-----	:	72	.053	:
:	25	.018	:	62	.035	:	*72°32'.5	-----	:
:	30	.019	:	63	.036	:	73	.056	:
:	35	.020	:	64	.038	:	74	.060	:
:	40	.022	:	65	.039	:	75	.064	:
:	45	.023	:	66	.041	:	*75°17'.5	-----	:
:	*49°27'.5	-----	:	67	.042	:	76	.068	:
:	50	.026	:	68	.044	:	77	.073	:
:	55	.029	:	*68°29'.4	-----	:	*77°27'.8	-----	:
:	60	.033	:	69	.046	:	78	.079	:
:			:	70	.048	:	*78°48'.4	-----	:
:			:			:	79	.086	:
:			:			:	*79°59'.5	-----	:
:			:			:	80	.095+	:

$\frac{1}{4}$ Bind.

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* Note-- When using " Δ " to two places, the final unit
changes value as " δ " passes through these inserted values.

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δ		A	B	C
-44°	50'	+ 1.399	+ 0.179	+ 1.410
	40	1.394	0.183	1.406
	30	1.390	0.186	1.402
	20	1.385+	0.190	1.398
	10	1.381	0.193	1.394
	0	1.376	0.197	1.390
-43	50	1.372	0.200	1.386
	40	1.367	0.203	1.382
	30	1.363	0.207	1.379
	20	1.359	0.210	1.375-
	10	1.354	0.214	1.371
	0	1.350	0.217	1.367
-42	50	1.346	0.220	1.364
	40	1.341	0.224	1.360
	30	1.337	0.227	1.356
	20	1.333	0.230	1.353
	10	1.329	0.233	1.349
	0	1.325-	0.237	1.346
-41	50	1.320+	0.240	1.342
	40	1.316	0.243	1.339
	30	1.312	0.246	1.335+
	20	1.308	0.249	1.332
	10	1.304	0.253	1.328
	0	1.300	0.256	1.325
-40	50	1.296	0.259	1.322
	40	1.292	0.262	1.318
	30	1.288	0.265	1.315
	20	1.284	0.268	1.312
	10	1.280	0.271	1.309
	0	1.276	0.274	1.305
-39	50	1.272	0.277	1.302
	40	1.268	0.280	1.299
	30	1.265	0.283	1.296
	20	1.261	0.286	1.293
	10	1.257	0.289	1.290
	0	1.253	0.292	1.287
-38	50	1.249	0.295+	1.284
	40	1.246	0.298	1.281
	30	1.242	0.301	1.278
	20	1.238	0.304	1.275-
	10	1.234	0.307	1.272
	0	1.231	0.310	1.269
-37	50	1.227	0.313	1.266
	40	1.223	0.315+	1.263
	30	+ 1.220	+ 0.318	+ 1.260

2	A	B	D
-44° 50'	1.899 +	0.199 +	1.410 +
50	1.394	0.199	1.406
50	1.390	0.199	1.403
50	1.385 +	0.199	1.398
10	1.381	0.199	1.394
0	1.376	0.199	1.390
50	1.372	0.200	1.386
40	1.367	0.200	1.382
30	1.363	0.201	1.379
20	1.359	0.210	1.375 -
10	1.354	0.214	1.371
0	1.350	0.214	1.367
50	1.346	0.220	1.364
40	1.341	0.224	1.360
30	1.337	0.227	1.356
20	1.333	0.230	1.353
10	1.329	0.233	1.349
0	1.325 -	0.237	1.346
50	1.320 +	0.240	1.343
40	1.316	0.243	1.339
30	1.313	0.246	1.336 +
20	1.309	0.249	1.333
10	1.304	0.253	1.328
0	1.300	0.256	1.325
50	1.296	0.259	1.322
40	1.292	0.263	1.318
30	1.288	0.266	1.315
20	1.284	0.268	1.313
10	1.280	0.271	1.309
0	1.276	0.274	1.305
50	1.272	0.277	1.302
40	1.268	0.280	1.299
30	1.265	0.283	1.296
20	1.261	0.286	1.293
10	1.257	0.289	1.290
0	1.253	0.292	1.287
50	1.249	0.295 +	1.284
40	1.245	0.298	1.281
30	1.242	0.301	1.278
20	1.238	0.304	1.275 -
10	1.234	0.307	1.272
0	1.231	0.310	1.269
50	1.227	0.313	1.266
40	1.223	0.315 +	1.263
30	1.220	0.318 +	1.260 +

δ	A	B	C
-37° 20'	+ 1.216	+ 0.321	+ 1.258
10	1.212	0.324	1.255-
0	1.209	0.327	1.252
-36 50	1.205+	0.330	1.249
40	1.202	0.332	1.247
30	1.198	0.335+	1.244
20	1.194	0.338	1.241
10	1.191	0.341	1.239
0	1.187	0.343	1.236
-35 50	1.184	0.346	1.233
40	1.180	0.349	1.231
30	1.177	0.351	1.228
20	1.174	0.354	1.226
10	1.170	0.357	1.223
0	1.167	0.360	1.221
-34 50	1.163	0.362	1.218
40	1.160	0.365-	1.216
30	1.156	0.367	1.213
20	1.153	0.370	1.211
10	1.150	0.373	1.209
0	1.146	0.375+	1.206
-33 50	1.143	0.378	1.204
40	1.140	0.380	1.202
30	1.136	0.383	1.199
20	1.133	0.386	1.197
10	1.130	0.388	1.195-
0	1.127	0.391	1.192
-32 50	1.123	0.393	1.190
40	1.120	0.396	1.188
30	1.117	0.398	1.186
20	1.114	0.401	1.184
10	1.110	0.403	1.181
0	1.107	0.406	1.179
-31 50	1.104	0.408	1.177
40	1.101	0.411	1.175-
30	1.098	0.413	1.173
20	1.094	0.416	1.171
10	1.091	0.418	1.169
0	1.088	0.421	1.167
-30 50	1.085+	0.423	1.165-
40	1.082	0.425+	1.163
30	1.079	0.428	1.161
20	1.076	0.430	1.159
10	1.073	0.433	1.157
0	+ 1.070	+ 0.435-	+ 1.155

2	1	B	C
-37- 80	+ 1.818	+ 0.381	+ 1.338
10	1.818	0.384	1.338
0	1.809	0.384	1.338
-38- 80	1.808+	0.380	1.343
40	1.808	0.383	1.347
30	1.198	0.383+	1.344
20	1.194	0.388	1.341
10	1.191	0.381	1.339
0	1.187	0.383	1.336
-38- 80	1.184	0.380	1.333
40	1.180	0.380	1.331
30	1.177	0.381	1.338
20	1.176	0.384	1.336
10	1.170	0.387	1.333
0	1.167	0.380	1.331
-39- 80	1.163	0.383	1.318
40	1.160	0.388-	1.318
30	1.158	0.387	1.313
20	1.153	0.380	1.311
10	1.150	0.373	1.309
0	1.148	0.378+	1.306
-39- 80	1.143	0.378	1.304
40	1.140	0.380	1.303
30	1.138	0.383	1.133
20	1.133	0.388	1.133
10	1.130	0.383	1.133-
0	1.127	0.381	1.133
-39- 80	1.123	0.383	1.130
40	1.120	0.386	1.138
30	1.117	0.383	1.138
20	1.114	0.401	1.134
10	1.110	0.403	1.131
0	1.107	0.408	1.123
-40- 80	1.104	0.408	1.117
40	1.101	0.411	1.118-
30	1.098	0.413	1.113
20	1.094	0.418	1.111
10	1.091	0.418	1.109
0	1.088	0.431	1.107
-40- 80	1.083+	0.433	1.103-
40	1.088	0.438+	1.103
30	1.073	0.438	1.101
20	1.078	0.430	1.103
10	1.073	0.433	1.107
0	1.070	0.438-	1.103+

δ	A	B	C
-29° 50'	+ 1.067	+0.437	+1.153
40	1.064	0.440	1.151
30	1.061	0.442	1.149
20	1.057	0.444	1.147
10	1.054	0.447	1.145+
0	1.051	0.449	1.143
-28 50	1.048	0.451	1.142
40	1.045+	0.454	1.140
30	1.043	0.456	1.138
20	1.040	0.458	1.136
10	1.037	0.461	1.134
0	1.034	0.463	1.133
-27 50	1.031	0.465+	1.131
40	1.028	0.468	1.129
30	1.025-	0.470	1.127
20	1.022	0.472	1.126
10	1.019	0.474	1.124
0	1.016	0.477	1.122
-26 50	1.013	0.479	1.121
40	1.010	0.481	1.119
30	1.007	0.483	1.117
20	1.005+	0.486	1.116
10	1.002	0.488	1.114
0	0.999	0.490	1.113
-25 50	0.996	0.492	1.111
40	0.993	0.494	1.109
30	0.990	0.497	1.108
20	0.988	0.499	1.106
10	0.985-	0.501	1.105
0	0.982	0.503	1.103
-24 50	0.979	0.505+	1.102
40	0.976	0.507	1.100
30	0.974	0.510	1.099
20	0.971	0.512	1.098
10	0.968	0.514	1.096
0	0.965+	0.516	1.095
-23 50	0.963	0.518	1.093
40	0.960	0.520	1.092
30	0.957	0.522	1.090
20	0.954	0.525-	1.089
10	0.952	0.527	1.088
0	0.949	0.529	1.086
-22 50	0.946	0.531	1.085
40	0.944	0.533	1.084
30	0.941	0.535+	1.082
20	0.938	0.537	1.081
10	0.936	0.539	1.080
0	+ 0.933	+ 0.541	+ 1.079

δ	A	B	C
-21° 50'	+ 0.930	+ 0.543	+ 1.077
40	0.928	0.545+	1.076
30	0.925-	0.548	1.075-
20	0.922	0.550-	1.074
10	0.920	0.552	1.072
0	0.917	0.554	1.071
-20 50	0.914	0.556	1.070
40	0.912	0.558	1.069
30	0.909	0.560	1.068
20	0.906	0.562	1.066
10	0.904	0.564	1.065-
0	0.901	0.566	1.064
-19 50	0.899	0.568	1.063
40	0.896	0.570	1.062
30	0.893	0.572	1.061
20	0.891	0.574	1.060
10	0.888	0.576	1.059
0	0.886	0.578	1.058
-18 50	0.883	0.580	1.057
40	0.881	0.582	1.056
30	0.878	0.584	1.054
20	0.875+	0.586	1.053
10	0.873	0.588	1.052
0	0.870	0.590	1.051
-17 50	0.868	0.592	1.050
40	0.865+	0.594	1.049+
30	0.863	0.596	1.049-
20	0.860	0.598	1.048
10	0.858	0.600	1.047
0	0.855+	0.602	1.046
-16 50	0.853	0.604	1.045-
40	0.850	0.606	1.044
30	0.848	0.608	1.043
20	0.845+	0.609	1.042
10	0.843	0.611	1.041
0	0.840	0.613	1.040
-15 50	0.838	0.615+	1.039
40	0.835+	0.617	1.039
30	0.833	0.619	1.038
20	0.830	0.621	1.037
10	0.828	0.623	1.036
0	0.825+	0.625-	1.035
-14 50	0.823	0.627	1.034
40	0.821	0.629	1.034
30	0.818	0.631	1.033
20	+ 0.816	+ 0.633	+ 1.032

δ	A	B	C
-14° 10'	+ 0.813	+ 0.634	+ 1.031
00	0.811 ⁶⁰³	0.636	1.031
-13 50	0.808	0.638	1.030
40	0.806	0.640	1.029
30	0.803	0.642	1.028
20	0.801	0.644	1.028
10	0.799	0.646	1.027
0	0.796	0.648	1.026
-12 50	0.794	0.650-	1.026
40	0.791	0.651	1.025
30	0.789	0.653	1.024
20	0.787	0.655	1.024
10	0.784	0.657	1.023
0	0.782	0.659	1.022
-11 50	0.799	0.661	1.022
40	0.777	0.663	1.021
30	0.775-	0.664	1.020
20	0.772	0.666	1.020
10	0.770	0.668	1.019
0	0.767	0.670	1.019
-10 50	0.765	0.672	1.018
40	0.763	0.674	1.018
30	0.760	0.676	1.017
20	0.758	0.677	1.016
10	0.755+	0.679	1.016
0	0.753	0.681	1.015+
-9 50	0.751	0.683	1.015-
40	0.748	0.685-	1.014
30	0.746	0.687	1.014
20	0.744	0.688	1.013
10	0.741	0.690	1.013
0	0.739	0.692	1.012
-8 50	0.737	0.694	1.012
40	0.734	0.696	1.012
30	0.732	0.698	1.011
20	0.730	0.699	1.011
10	0.727	0.701	1.010
0	0.725-	0.703	1.010
-7 50	0.723	0.705	1.009
40	0.720	0.707	1.009
30	0.718	0.709	1.009
20	0.715+	0.710	1.008
10	0.713	0.712	1.008
0	+ 0.711	+ 0.714	+ 1.008

2	A	B	C
-14	0.813	0.813	1.031
00	0.811	0.811	1.031
-13	0.808	0.808	1.030
20	0.808	0.808	1.030
30	0.803	0.803	1.030
40	0.801	0.801	1.030
50	0.799	0.799	1.030
60	0.799	0.799	1.030
-12	0.794	0.794	1.029
20	0.791	0.791	1.029
30	0.789	0.789	1.029
40	0.787	0.787	1.029
50	0.784	0.784	1.029
60	0.783	0.783	1.029
-11	0.779	0.779	1.028
20	0.777	0.777	1.028
30	0.775	0.775	1.028
40	0.773	0.773	1.028
50	0.770	0.770	1.028
60	0.767	0.767	1.028
-10	0.765	0.765	1.018
20	0.763	0.763	1.018
30	0.760	0.760	1.018
40	0.758	0.758	1.018
50	0.755	0.755	1.018
60	0.753	0.753	1.018
-9	0.751	0.751	1.018
20	0.748	0.748	1.018
30	0.746	0.746	1.018
40	0.744	0.744	1.018
50	0.741	0.741	1.018
60	0.739	0.739	1.018
-8	0.737	0.737	1.018
20	0.734	0.734	1.018
30	0.733	0.733	1.018
40	0.730	0.730	1.018
50	0.727	0.727	1.018
60	0.725	0.725	1.018
-7	0.723	0.723	1.009
20	0.720	0.720	1.009
30	0.719	0.719	1.009
40	0.718	0.718	1.009
50	0.716	0.716	1.009
60	0.715	0.715	1.009
-6	0.711	0.711	1.008

δ	A	B	C
-6° 50'	+ 0.709	+ 0.716	+ 1.007
40	0.706	0.718	1.007
30	0.704	0.719	1.006
20	0.702	0.721	1.006
10	0.699	0.723	1.006
0	0.697	0.725-	1.006
+ -5 50	0.695-	0.727	1.005+
40	0.692	0.728	1.005-
30	0.690	0.730	1.005-
20	0.688	0.732	1.004
10	0.685+	0.734	1.004
0	0.683	0.736	1.004
+ -4 50	0.681	0.737	1.004
40	0.678	0.739	1.003
30	0.676	0.741	1.003
20	0.674	0.743	1.003
10	0.671	0.745-	1.003
0	0.669	0.746	1.002
-3 50	0.667	0.748	1.002
40	0.664	0.750	1.002
30	0.662	0.752	1.002
20	0.660	0.754	1.002
10	0.658	0.755+	1.002
0	0.655+	0.757	1.001
-2 50	0.653	0.759	1.001
40	0.651	0.761	1.001
30	0.648	0.763	1.001
20	0.646	0.764	1.001
10	0.644	0.766	1.001
0	0.641	0.768	1.001
-1 50	0.639	0.770	1.001
40	0.637	0.772	1.000
30	0.635-	0.773	1.000
20	0.632	0.775+	1.000
10	0.630	0.777	1.000
0	0.628	0.779-	1.000
+ -0 50	0.625+	0.780	1.000
40	0.623	0.782	1.000
30	0.621	0.784	1.000
20	0.619	0.786	1.000
10	0.616	0.788	1.000
0	0.614	0.789	1.000
+ 0 0	0.614	0.789	1.000
10	0.612	0.791	1.000
20	0.609	0.793	1.000
30	0.607	0.795-	1.000
40	0.605-	0.797	1.000
50	+ 0.602	+ 0.798	+ 1.000

2	A	B	C
-6	0.703	0.718	1.007
40	0.703	0.718	1.007
30	0.704	0.719	1.008
20	0.705	0.721	1.008
10	0.706	0.723	1.008
0	0.707	0.725	1.008
-2	0.708	0.727	1.009
40	0.709	0.728	1.009
30	0.710	0.730	1.009
20	0.711	0.732	1.004
10	0.712	0.734	1.004
0	0.713	0.736	1.004
-4	0.714	0.737	1.004
40	0.715	0.739	1.003
30	0.716	0.741	1.003
20	0.717	0.743	1.003
10	0.718	0.745	1.003
0	0.719	0.746	1.003
-2	0.720	0.748	1.003
40	0.721	0.750	1.003
30	0.722	0.752	1.003
20	0.723	0.754	1.003
10	0.724	0.756	1.003
0	0.725	0.758	1.001
-3	0.726	0.759	1.001
40	0.727	0.761	1.001
30	0.728	0.763	1.001
20	0.729	0.764	1.001
10	0.730	0.766	1.001
0	0.731	0.768	1.001
-1	0.732	0.770	1.001
40	0.733	0.772	1.000
30	0.734	0.773	1.000
20	0.735	0.775	1.000
10	0.736	0.777	1.000
0	0.737	0.779	1.000
-0	0.738	0.780	1.000
40	0.739	0.782	1.000
30	0.740	0.784	1.000
20	0.741	0.786	1.000
10	0.742	0.788	1.000
0	0.743	0.789	1.000
+0	0.744	0.791	1.000
10	0.745	0.791	1.000
20	0.746	0.793	1.000
30	0.747	0.795	1.000
40	0.748	0.797	1.000
50	0.749	0.798	1.000

S		A	B	C
+1°	0'	+0.600	+0.800	+ 1.000
	10	0.598	0.802	1.000
	20	0.596	0.804	1.000
	30	0.593	0.805+	1.000
	40	0.591	0.807	1.000
	50	0.589	0.809	1.001
+2	0	0.586	0.811	1.001
	10	0.584	0.813	1.001
	20	0.582	0.814	1.001
	30	0.579	0.816	1.001
	40	0.577	0.818	1.001
	50	0.575-	0.820	1.001
+3	0	0.573	0.822	1.001
	10	0.570	0.823	1.002
	20	0.568	0.825+	1.002
	30	0.566	0.827	1.002
	40	0.563	0.829	1.002
	50	0.561	0.831	1.002
+4	0	0.559	0.832	1.002
	10	0.556	0.834	1.003
	20	0.554	0.836	1.003
	30	0.552	0.838	1.003
	40	0.549	0.839	1.003
	50	0.547	0.841	1.004
+5	0	0.545-	0.843	1.004
	10	0.543	0.845-	1.004
	20	0.540	0.847	1.004
	30	0.538	0.849	1.005
	40	0.536	0.850	1.005
	50	0.533	0.852	1.005
+6	0	0.531	0.854	1.006
	10	0.529	0.856	1.006
	20	0.526	0.858	1.006
	30	0.524	0.859	1.006
	40	0.522	0.861	1.007
	50	0.519	0.863	1.007
+7	0	0.517	0.865-	1.008
	10	0.515-	0.866	1.008
	20	0.512	0.868	1.008
	30	0.510	0.870	1.009
	40	0.508	0.872	1.009
	50	0.505+	0.874	1.009
+8	0	0.503	0.876	1.010
	10	0.501	0.877	1.010
	20	0.498	0.879	1.011
	30	0.496	0.881	1.011
	40	0.494	0.883	1.012
	50	+ 0.491	+ 0.885-	+ 1.012

2	A	E	G
0	0.000	0.000	0.000
10	0.000	0.000	0.000
20	0.000	0.000	0.000
30	0.000	0.000	0.000
40	0.000	0.000	0.000
50	0.000	0.000	0.000
60	0.000	0.000	0.000
70	0.000	0.000	0.000
80	0.000	0.000	0.000
90	0.000	0.000	0.000
100	0.000	0.000	0.000
110	0.000	0.000	0.000
120	0.000	0.000	0.000
130	0.000	0.000	0.000
140	0.000	0.000	0.000
150	0.000	0.000	0.000
160	0.000	0.000	0.000
170	0.000	0.000	0.000
180	0.000	0.000	0.000
190	0.000	0.000	0.000
200	0.000	0.000	0.000
210	0.000	0.000	0.000
220	0.000	0.000	0.000
230	0.000	0.000	0.000
240	0.000	0.000	0.000
250	0.000	0.000	0.000
260	0.000	0.000	0.000
270	0.000	0.000	0.000
280	0.000	0.000	0.000
290	0.000	0.000	0.000
300	0.000	0.000	0.000
310	0.000	0.000	0.000
320	0.000	0.000	0.000
330	0.000	0.000	0.000
340	0.000	0.000	0.000
350	0.000	0.000	0.000
360	0.000	0.000	0.000
370	0.000	0.000	0.000
380	0.000	0.000	0.000
390	0.000	0.000	0.000
400	0.000	0.000	0.000
410	0.000	0.000	0.000
420	0.000	0.000	0.000
430	0.000	0.000	0.000
440	0.000	0.000	0.000
450	0.000	0.000	0.000
460	0.000	0.000	0.000
470	0.000	0.000	0.000
480	0.000	0.000	0.000
490	0.000	0.000	0.000
500	0.000	0.000	0.000
510	0.000	0.000	0.000
520	0.000	0.000	0.000
530	0.000	0.000	0.000
540	0.000	0.000	0.000
550	0.000	0.000	0.000
560	0.000	0.000	0.000
570	0.000	0.000	0.000
580	0.000	0.000	0.000
590	0.000	0.000	0.000
600	0.000	0.000	0.000
610	0.000	0.000	0.000
620	0.000	0.000	0.000
630	0.000	0.000	0.000
640	0.000	0.000	0.000
650	0.000	0.000	0.000
660	0.000	0.000	0.000
670	0.000	0.000	0.000
680	0.000	0.000	0.000
690	0.000	0.000	0.000
700	0.000	0.000	0.000
710	0.000	0.000	0.000
720	0.000	0.000	0.000
730	0.000	0.000	0.000
740	0.000	0.000	0.000
750	0.000	0.000	0.000
760	0.000	0.000	0.000
770	0.000	0.000	0.000
780	0.000	0.000	0.000
790	0.000	0.000	0.000
800	0.000	0.000	0.000
810	0.000	0.000	0.000
820	0.000	0.000	0.000
830	0.000	0.000	0.000
840	0.000	0.000	0.000
850	0.000	0.000	0.000
860	0.000	0.000	0.000
870	0.000	0.000	0.000
880	0.000	0.000	0.000
890	0.000	0.000	0.000
900	0.000	0.000	0.000
910	0.000	0.000	0.000
920	0.000	0.000	0.000
930	0.000	0.000	0.000
940	0.000	0.000	0.000
950	0.000	0.000	0.000
960	0.000	0.000	0.000
970	0.000	0.000	0.000
980	0.000	0.000	0.000
990	0.000	0.000	0.000
1000	0.000	0.000	0.000

S		A	B	C
+9°	0'	+ 0.489	+0.887	+1.012
	10	0.487	0.888	1.013
	20	0.484	0.890	1.013
	30	0.482	0.892	1.014
	40	0.479	0.894	1.014
	50	0.477	0.896	1.015-
+10	0	0.475-	0.898	1.015+
	10	0.472	0.899	1.016
	20	0.470	0.901	1.016
	30	0.468	0.903	1.017
	40	0.465+	0.905	1.018
	50	0.463	0.907	1.018
+11	0	0.460	0.909	1.019
	10	0.458	0.911	1.019
	20	0.456	0.912	1.020
	30	0.453	0.914	1.020
	40	0.451	0.916	1.021
	50	0.449	0.918	1.022
+12	0	0.446	0.920	1.022
	10	0.444	0.922	1.023
	20	0.441	0.924	1.024
	30	0.439	0.925-	1.024
	40	0.436	0.927	1.025
	50	0.434	0.929	1.026
+13	0	0.432	0.931	1.026
	10	0.429	0.933	1.027
	20	0.427	0.935-	1.028
	30	0.424	0.937	1.028
	40	0.422	0.939	1.029
	50	0.420	0.941	1.030
+14	0	0.417	0.942	1.031
	10	0.415-	0.944	1.031
	20	0.412	0.946	1.032
	30	0.410	0.948	1.033
	40	0.407	0.950	1.034
	50	0.405-	0.952	1.034
+15	0	0.402	0.954	1.035+
	10	0.400	0.956	1.036
	20	0.397	0.958	1.037
	30	0.395	0.960	1.038
	40	0.393	0.962	1.039
	50	0.390	0.963	1.039
+16	0	0.388	0.965+	1.040
	10	0.385+	0.967	1.041
	20	0.383	0.969	1.042
	30	0.380	0.971	1.043
	40	0.378	0.973	1.044
	50	+ 0.375+	+ 0.975+	+ 1.045-

C	B	A	2	
1.018	0.887	0.488	0	+0.887
1.018	0.888	0.487	10	
1.018	0.889	0.484	20	
1.014	0.888	0.483	30	
1.014	0.884	0.478	40	
1.018	0.888	0.477	50	
1.018	0.888	0.475	0	+10
1.018	0.888	0.473	10	
1.018	0.887	0.470	20	
1.017	0.888	0.468	30	
1.018	0.888	0.465	40	
1.018	0.887	0.463	50	
1.018	0.888	0.459	0	+11
1.018	0.887	0.458	10	
1.018	0.887	0.455	20	
1.030	0.887	0.453	30	
1.030	0.887	0.451	40	
1.031	0.888	0.448	50	
1.038	0.888	0.443	0	+12
1.038	0.888	0.444	10	
1.034	0.884	0.441	20	
1.034	0.883	0.438	30	
1.038	0.887	0.436	40	
1.038	0.887	0.434	50	
1.038	0.887	0.433	0	+13
1.037	0.888	0.433	10	
1.038	0.887	0.432	20	
1.038	0.887	0.434	30	
1.038	0.888	0.433	40	
1.030	0.887	0.430	50	
1.031	0.888	0.427	0	+14
1.031	0.887	0.418	10	
1.038	0.888	0.418	20	
1.038	0.888	0.410	30	
1.034	0.888	0.407	40	
1.034	0.888	0.403	50	
1.038	0.888	0.403	0	+15
1.038	0.888	0.400	10	
1.037	0.888	0.387	20	
1.038	0.888	0.388	30	
1.038	0.888	0.383	40	
1.038	0.888	0.380	50	
1.040	0.888	0.383	0	+16
1.041	0.887	0.382	10	
1.048	0.888	0.383	20	
1.048	0.887	0.380	30	
1.048	0.888	0.378	40	
1.048	0.888	0.378	50	

S		A	B	C
+ 17°	0'	+ 0.373	+ 0.977	+ 1.046
	10	0.370	0.979	1.047
	20	0.368	0.981	1.048
	30	0.365	0.983	1.049
	40	0.362	0.985-	1.049
	50	0.360	0.987	1.050 +
+ 18	0	0.357	0.989	1.051
	10	0.355-	0.991	1.052
	20	0.352	0.993	1.053
	30	0.350	0.995-	1.054
	40	0.347	0.997	1.056
	50	0.345-	0.999	1.057
+ 19	0	0.342	1.001	1.058
	10	0.340	1.003	1.059
	20	0.337	1.005-	1.060
	30	0.334	1.007	1.061
	40	0.332	1.009	1.062
	50	0.329	1.011	1.063
+ 20	0	0.327	1.013	1.064
	10	0.324	1.015-	1.065 +
	20	0.321	1.017	1.066
	30	0.319	1.019	1.068
	40	0.316	1.021	1.069
	50	0.314	1.023	1.070
+ 21	0	0.311	1.025	1.071
	10	0.308	1.027	1.072
	20	0.306	1.029	1.074
	30	0.303	1.031	1.075-
	40	0.300	1.033	1.076
	50	0.298	1.035+	1.077
+ 22	0	0.295	1.037	1.079
	10	0.292	1.039	1.080
	20	0.290	1.042	1.081
	30	0.287	1.044	1.082
	40	0.284	1.046	1.084
	50	0.282	1.048	1.085
+ 23	0	0.279	1.050	1.086
	10	0.276	1.052	1.088
	20	0.273	1.054	1.089
	30	0.271	1.056	1.090
	40	0.268	1.058	1.092
	50	0.265+	1.061	1.093
+ 24°	0'	0.262	1.063	1.095-
	10	0.260	1.065-	1.096
	20	0.257	1.067	1.098
	30	0.254	1.069	1.099
	40	0.251	1.071	1.100
	50	+ 0.249	+ 1.073	+ 1.102

6	A	B	C
+ 17°	0.343 0.341 0.339 0.337 0.335 0.333 0.331 0.329	0.343 0.341 0.339 0.337 0.335 0.333 0.331 0.329	+ 1.046 1.047 1.048 1.049 1.050 1.051 1.052 1.053
18	0.327 0.325 0.323 0.321 0.319 0.317 0.315 0.313	0.327 0.325 0.323 0.321 0.319 0.317 0.315 0.313	1.054 1.055 1.056 1.057 1.058 1.059 1.060 1.061
19	0.314 0.312 0.310 0.308 0.306 0.304 0.302 0.300	1.062 1.063 1.064 1.065 1.066 1.067 1.068 1.069	1.062 1.063 1.064 1.065 1.066 1.067 1.068 1.069
20	0.287 0.285 0.283 0.281 0.279 0.277 0.275 0.273	1.070 1.071 1.072 1.073 1.074 1.075 1.076 1.077	1.070 1.071 1.072 1.073 1.074 1.075 1.076 1.077
21	0.250 0.248 0.246 0.244 0.242 0.240 0.238 0.236	1.078 1.079 1.080 1.081 1.082 1.083 1.084 1.085	1.078 1.079 1.080 1.081 1.082 1.083 1.084 1.085
22	0.213 0.211 0.209 0.207 0.205 0.203 0.201 0.199	1.086 1.087 1.088 1.089 1.090 1.091 1.092 1.093	1.086 1.087 1.088 1.089 1.090 1.091 1.092 1.093
23	0.176 0.174 0.172 0.170 0.168 0.166 0.164 0.162	1.094 1.095 1.096 1.097 1.098 1.099 1.100 1.101	1.094 1.095 1.096 1.097 1.098 1.099 1.100 1.101
+ 24°	0.129 0.127 0.125 0.123 0.121 0.119 0.117 0.115	1.102 1.103 1.104 1.105 1.106 1.107 1.108 1.109	+ 1.102 1.103 1.104 1.105 1.106 1.107 1.108 1.109

δ		A	B	C
+ 25°	0'	+ 0.246	+1.076	+ 1.103
	10	0.243	1.078	1.105-
	20	0.240	1.080	1.106
	30	0.237	1.082	1.108
	40	0.235-	1.084	1.109
	50	0.232	1.087	1.111
+ 26	0	0.229	1.089	1.113
	10	0.226	1.091	1.114
	20	0.223	1.093	1.116
	30	0.220	1.095+	1.117
	40	0.217	1.098	1.119
	50	0.215-	1.100	1.121
+ 27	0	0.212	1.102	1.122
	10	0.209	1.104	1.124
	20	0.206	1.107	1.126
	30	0.203	1.109	1.127
	40	0.200	1.111	1.129
	50	0.197	1.114	1.131
+ 28	0	0.194	1.116	1.133
	10	0.191	1.118	1.134
	20	0.188	1.120	1.136
	30	0.185+	1.123	1.138
	40	0.182	1.125	1.140
	50	0.179	1.127	1.142
+ 29	0	0.176	1.130	1.143
	10	0.173	1.132	1.145+
	20	0.170	1.134	1.147
	30	0.167	1.137	1.149
	40	0.164	1.139	1.151
	50	0.161	1.141	1.153
+ 30	0	0.158	1.144	1.155-
	10	0.155+	1.146	1.157
	20	0.152	1.149	1.159
	30	0.149	1.151	1.161
	40	0.146	1.153	1.163
	50	0.143	1.156	1.165-
+ 31	0	0.140	1.158	1.167
	10	0.136	1.161	1.169
	20	0.133	1.163	1.171
	30	0.130	1.166	1.173
	40	0.127	1.168	1.175-
	50	0.124	1.171	1.177
+ 32°	0'	0.121	1.173	1.179
	10	0.117	1.175+	1.181
	20	0.114	1.178	1.184
	30	0.111	1.180	1.186
	40	0.108	1.183	1.188
	50	+ 0.105-	+ 1.186	+ 1.190

C	B	A	2	
+1.103	+1.086	+0.102	50	+32°
1.103	1.103	0.103	40	
1.103	1.103	0.111	30	
1.103	1.103	0.114	20	
1.103	1.103	0.117	10	
1.103	1.103	0.121	0	+32°
1.103	1.103	0.124	50	
1.103	1.103	0.127	40	
1.103	1.103	0.130	30	
1.103	1.103	0.133	20	
1.103	1.103	0.136	10	
1.103	1.103	0.139	0	+32°
1.103	1.103	0.142	50	
1.103	1.103	0.145	40	
1.103	1.103	0.148	30	
1.103	1.103	0.151	20	
1.103	1.103	0.154	10	
1.103	1.103	0.157	0	+32°
1.103	1.103	0.160	50	
1.103	1.103	0.163	40	
1.103	1.103	0.166	30	
1.103	1.103	0.169	20	
1.103	1.103	0.172	10	
1.103	1.103	0.175	0	+32°
1.103	1.103	0.178	50	
1.103	1.103	0.181	40	
1.103	1.103	0.184	30	
1.103	1.103	0.187	20	
1.103	1.103	0.190	10	
1.103	1.103	0.193	0	+32°
1.103	1.103	0.196	50	
1.103	1.103	0.199	40	
1.103	1.103	0.202	30	
1.103	1.103	0.205	20	
1.103	1.103	0.208	10	
1.103	1.103	0.211	0	+32°
1.103	1.103	0.214	50	
1.103	1.103	0.217	40	
1.103	1.103	0.220	30	
1.103	1.103	0.223	20	
1.103	1.103	0.226	10	
1.103	1.103	0.229	0	+32°
1.103	1.103	0.232	50	
1.103	1.103	0.235	40	
1.103	1.103	0.238	30	
1.103	1.103	0.241	20	
1.103	1.103	0.244	10	
1.103	1.103	0.247	0	+32°
1.103	1.103	0.250	50	
1.103	1.103	0.253	40	
1.103	1.103	0.256	30	
1.103	1.103	0.259	20	
1.103	1.103	0.262	10	
1.103	1.103	0.265	0	+32°
1.103	1.103	0.268	50	
1.103	1.103	0.271	40	
1.103	1.103	0.274	30	
1.103	1.103	0.277	20	
1.103	1.103	0.280	10	
1.103	1.103	0.283	0	+32°
1.103	1.103	0.286	50	
1.103	1.103	0.289	40	
1.103	1.103	0.292	30	
1.103	1.103	0.295	20	
1.103	1.103	0.298	10	
1.103	1.103	0.301	0	+32°
1.103	1.103	0.304	50	
1.103	1.103	0.307	40	
1.103	1.103	0.310	30	
1.103	1.103	0.313	20	
1.103	1.103	0.316	10	
1.103	1.103	0.319	0	+32°
1.103	1.103	0.322	50	
1.103	1.103	0.325	40	
1.103	1.103	0.328	30	
1.103	1.103	0.331	20	
1.103	1.103	0.334	10	
1.103	1.103	0.337	0	+32°
1.103	1.103	0.340	50	
1.103	1.103	0.343	40	
1.103	1.103	0.346	30	
1.103	1.103	0.349	20	
1.103	1.103	0.352	10	
1.103	1.103	0.355	0	+32°
1.103	1.103	0.358	50	
1.103	1.103	0.361	40	
1.103	1.103	0.364	30	
1.103	1.103	0.367	20	
1.103	1.103	0.370	10	
1.103	1.103	0.373	0	+32°
1.103	1.103	0.376	50	
1.103	1.103	0.379	40	
1.103	1.103	0.382	30	
1.103	1.103	0.385	20	
1.103	1.103	0.388	10	
1.103	1.103	0.391	0	+32°
1.103	1.103	0.394	50	
1.103	1.103	0.397	40	
1.103	1.103	0.400	30	
1.103	1.103	0.403	20	
1.103	1.103	0.406	10	
1.103	1.103	0.409	0	+32°
1.103	1.103	0.412	50	
1.103	1.103	0.415	40	
1.103	1.103	0.418	30	
1.103	1.103	0.421	20	
1.103	1.103	0.424	10	
1.103	1.103	0.427	0	+32°
1.103	1.103	0.430	50	
1.103	1.103	0.433	40	
1.103	1.103	0.436	30	
1.103	1.103	0.439	20	
1.103	1.103	0.442	10	
1.103	1.103	0.445	0	+32°
1.103	1.103	0.448	50	
1.103	1.103	0.451	40	
1.103	1.103	0.454	30	
1.103	1.103	0.457	20	
1.103	1.103	0.460	10	
1.103	1.103	0.463	0	+32°
1.103	1.103	0.466	50	
1.103	1.103	0.469	40	
1.103	1.103	0.472	30	
1.103	1.103	0.475	20	
1.103	1.103	0.478	10	
1.103	1.103	0.481	0	+32°
1.103	1.103	0.484	50	
1.103	1.103	0.487	40	
1.103	1.103	0.490	30	
1.103	1.103	0.493	20	
1.103	1.103	0.496	10	
1.103	1.103	0.499	0	+32°
1.103	1.103	0.502	50	
1.103	1.103	0.505	40	
1.103	1.103	0.508	30	
1.103	1.103	0.511	20	
1.103	1.103	0.514	10	
1.103	1.103	0.517	0	+32°
1.103	1.103	0.520	50	
1.103	1.103	0.523	40	
1.103	1.103	0.526	30	
1.103	1.103	0.529	20	
1.103	1.103	0.532	10	
1.103	1.103	0.535	0	+32°
1.103	1.103	0.538	50	
1.103	1.103	0.541	40	
1.103	1.103	0.544	30	
1.103	1.103	0.547	20	
1.103	1.103	0.550	10	
1.103	1.103	0.553	0	+32°
1.103	1.103	0.556	50	
1.103	1.103	0.559	40	
1.103	1.103	0.562	30	
1.103	1.103	0.565	20	
1.103	1.103	0.568	10	
1.103	1.103	0.571	0	+32°
1.103	1.103	0.574	50	
1.103	1.103	0.577	40	
1.103	1.103	0.580	30	
1.103	1.103	0.583	20	
1.103	1.103	0.586	10	
1.103	1.103	0.589	0	+32°
1.103	1.103	0.592	50	
1.103	1.103	0.595	40	
1.103	1.103	0.598	30	
1.103	1.103	0.601	20	
1.103	1.103	0.604	10	
1.103	1.103	0.607	0	+32°
1.103	1.103	0.610	50	
1.103	1.103	0.613	40	
1.103	1.103	0.616	30	
1.103	1.103	0.619	20	
1.103	1.103	0.622	10	
1.103	1.103	0.625	0	+32°
1.103	1.103	0.628	50	
1.103	1.103	0.631	40	
1.103	1.103	0.634	30	
1.103	1.103	0.637	20	
1.103	1.103	0.640	10	
1.103	1.103	0.643	0	+32°
1.103	1.103	0.646	50	
1.103	1.103	0.649	40	
1.103	1.103	0.652	30	
1.103	1.103	0.655	20	
1.103	1.103	0.658	10	
1.103	1.103	0.661	0	+32°
1.103	1.103	0.664	50	
1.103	1.103	0.667	40	
1.103	1.103	0.670	30	
1.103	1.103	0.673	20	
1.103	1.103	0.676	10	
1.103	1.103	0.679	0	+32°
1.103	1.103	0.682	50	
1.103	1.103	0.685	40	
1.103	1.103	0.688	30	
1.103	1.103	0.691	20	
1.103	1.103	0.694	10	
1.103	1.103	0.697	0	+32°
1.103	1.103	0.700	50	
1.103	1.103	0.703	40	
1.103	1.103	0.706	30	
1.103	1.103	0.709	20	
1.103	1.103	0.712	10	
1.103	1.103	0.715	0	+32°
1.103	1.103	0.718	50	
1.103	1.103	0.721	40	
1.103	1.103	0.724	30	
1.103	1.103	0.727	20	
1.103	1.103	0.730	10	
1.103	1.103	0.733	0	+32°
1.103	1.103	0.736	50	
1.103	1.103	0.739	40	
1.103	1.103	0.742	30	
1.103	1.103	0.745	20	
1.103	1.103	0.748	10	
1.103	1.103	0.751	0	+32°
1.103	1.103	0.754	50	
1.103	1.103	0.757	40	
1.103	1.103	0.760	30	
1.103	1.103	0.763	20	
1.103	1.103	0.766	10	
1.103	1.103	0.769	0	+32°
1.103	1.103	0.772	50	
1.103	1.103	0.775	40	
1.103	1.103	0.778	30	
1.103	1.103	0.781	20	
1.103	1.103	0.784	10	
1.103	1.103	0.787	0	+32°
1.103	1.103	0.790	50	
1.103	1.103	0.793	40	
1.103	1.103	0.796	30	
1.103	1.103	0.799	20	
1.103	1.103	0.802	10	
1.103	1.103	0.805	0	+32°
1.103	1.103	0.808	50	
1.103	1.103	0.811	40	
1.103	1.103	0.814	30	
1.103	1.103	0.817	20	
1.103	1.103	0.820	10	
1.103	1.103	0.823	0	+32°
1.103	1.103	0.826	50	
1.103	1.103	0.829	40	
1.103	1.103	0.832	30	
1.103	1.103	0.835	20	
1.103	1.103	0.838	10	
1.103	1.103	0.841	0	+32°
1.103	1.103	0.844	50	
1.103	1.103	0.847	40	
1.103	1.103	0.850	30	
1.103	1.103	0.853	20	
1.103	1.103	0.856	10	
1.103	1.103	0.859	0	+32°
1.103	1.103	0.862	50	
1.103	1.103	0.865	40	
1.103	1.103	0.868	30	
1.103	1.103	0.871	20	
1.103	1.103	0.874	10	
1.103	1.103	0.877		

8	A	B	C
+ 33° 0'	+ 0.101	+ 1.188	+ 1.192
10	0.098	1.191	1.195-
20	0.095-	1.193	1.197
30	0.091	1.196	1.199
40	0.088	1.198	1.202
50	0.085-	1.201	1.204
+ 34 0	0.081	1.203	1.206
10	0.078	1.206	1.209
20	0.075-	1.209	1.211
30	0.071	1.211	1.213
40	0.068	1.214	1.216
50	0.065-	1.217	1.218
+ 35 0	0.061	1.219	1.221
10	0.058	1.222	1.223
20	0.054	1.225-	1.226
30	0.051	1.227	1.228
40	0.047	1.230	1.231
50	0.044	1.233	1.233
+ 36 0	0.040	1.235+	1.236
10	0.037	1.238	1.239
20	0.033	1.241	1.241
30	0.030	1.244	1.244
40	0.026	1.246	1.247
50	0.023	1.249	1.249
+ 37 0	0.019	1.252	1.252
10	0.015+	1.255-	1.255-
20	0.012	1.258	1.258
30	0.008	1.260	1.260
40	0.004	1.263	1.263
50	+ 0.001	+ 1.266	+ 1.266
+ 38 0	- 0.003	+ 1.269	+ 1.269
10	0.006	1.272	1.272
20	0.010	1.275-	1.275-
30	0.014	1.278	1.278
40	0.018	1.281	1.281
50	0.022	1.284	1.284
+ 39 0	0.025-	1.287	1.287
10	0.029	1.289	1.290
20	0.033	1.292	1.293
30	0.037	1.295+	1.296
40	0.041	1.298	1.299
50	0.045-	1.301	1.302
+ 40° 0'	0.048	1.305-	1.305+
10	0.052	1.308	1.309
20	0.056	1.311	1.312
30	0.060	1.314	1.315+
40	0.064	1.317	1.318
50	- 0.068	+ 1.320	+ 1.322

D	B	A	3	
+1.135	+1.138	+0.101	+33°	0
-1.135	1.131	0.098	10	
1.137	1.133	0.095	30	
1.139	1.136	0.091	40	
1.138	1.138	0.088	50	
1.134	1.131	0.085	60	
1.135	1.133	0.081	70	
1.136	1.136	0.078	80	
1.131	1.133	0.075	90	
1.118	1.111	0.071	100	
1.116	1.114	0.069	110	
1.118	1.117	0.065	120	
1.121	1.119	0.061	130	
1.123	1.123	0.058	140	
1.122	1.125	0.054	150	
1.128	1.127	0.051	160	
1.121	1.120	0.047	170	
1.122	1.123	0.044	180	
1.126	1.125	0.040	190	
1.129	1.128	0.037	200	
1.141	1.141	0.033	210	
1.144	1.144	0.030	220	
1.147	1.146	0.026	230	
1.149	1.149	0.023	240	
1.152	1.152	0.019	250	
1.152	1.152	0.015	260	
1.153	1.153	0.012	270	
1.150	1.150	0.008	280	
1.153	1.153	0.004	290	
+1.155	+1.155	+0.001	300	
+1.159	+1.159	-0.003	310	
1.173	1.173	0.000	320	
-1.175	-1.175	0.010	330	
1.179	1.178	0.014	340	
1.181	1.181	0.018	350	
1.184	1.184	0.022	360	
1.187	1.187	0.025	370	
1.190	1.189	0.029	380	
1.193	1.193	0.033	390	
1.196	1.196	0.037	400	
1.199	1.199	0.041	410	
1.202	1.201	0.045	420	
1.205	1.205	0.048	430	
1.209	1.208	0.052	440	
1.212	1.211	0.055	450	
1.215	1.214	0.059	460	
1.218	1.217	0.064	470	
+1.222	+1.220	-0.068	480	

δ		A	B	C
+41°	0'	-0.072	+1.323	+1.325
	10	0.076	1.326	1.328
	20	0.080	1.329	1.332
	30	0.084	1.333	1.335+
	40	0.089	1.336	1.339
	50	0.093	1.339	1.342
+42°	0	0.097	1.342	1.346
	10	0.101	1.345+	1.349
	20	0.105+	1.349	1.353
	30	0.109	1.352	1.356
	40	0.114	1.355+	1.360
	50	0.118	1.359	1.364
+43	0	0.122	1.362	1.367
	10	0.126	1.365+	1.371
	20	0.131	1.369	1.375-
	30	0.135	1.372	1.379
	40	0.140	1.375+	1.382
	50	0.144	1.379	1.386
+44	0	0.148	1.382	1.390
	10	0.153	1.386	1.394
	20	0.157	1.389	1.398
	30	0.162	1.393	1.402
	40	0.166	1.396	1.406
	50	0.171	1.400	1.410
+45	0	0.175+	1.403	1.414
	10	0.180	1.407	1.418
	20	0.185-	1.410	1.423
	30	0.189	1.414	1.427
	40	0.194	1.418	1.431
	50	0.199	1.421	1.435+
+46	0	0.204	1.425+	1.440
	10	0.208	1.429	1.444
	20	0.213	1.433	1.448
	30	0.218	1.436	1.453
	40	0.223	1.440	1.457
	50	0.228	1.444	1.462
+47	0	0.233	1.448	1.446
	10	0.238	1.452	1.471
	20	0.243	1.455+	1.476
	30	0.248	1.459	1.480
	40	0.253	1.463	1.485
	50	0.258	1.467	1.490
+48°	0'	0.263	1.471	1.494
	10	0.268	1.475+	1.499
	20	0.273	1.479	1.504
	30	0.278	1.483	1.509
	40	0.284	1.487	1.514
	50	-0.289	+1.491	+1.519

2	A	B	C
+41°	-0.075	+1.388	+1.388
10	0.078	1.388	1.388
30	0.083	1.388	1.388
50	0.084	1.388	1.388
70	0.085	1.388	1.388
90	0.088	1.388	1.388
+	0.093	1.388	1.388
+	0.097	1.388	1.388
10	0.101	1.388	1.388
30	0.108	1.388	1.388
50	0.109	1.388	1.388
70	0.113	1.388	1.388
90	0.118	1.388	1.388
+	0.123	1.388	1.388
10	0.128	1.388	1.388
30	0.131	1.388	1.388
50	0.135	1.388	1.388
70	0.140	1.388	1.388
90	0.144	1.388	1.388
+	0.148	1.388	1.388
10	0.153	1.388	1.388
30	0.157	1.388	1.388
50	0.158	1.388	1.388
70	0.159	1.388	1.388
90	0.161	1.400	1.410
+	0.165	1.403	1.414
10	0.169	1.407	1.418
30	0.173	1.410	1.423
50	0.178	1.414	1.427
70	0.184	1.418	1.431
90	0.189	1.421	1.435
+	0.204	1.425	1.440
10	0.208	1.429	1.444
30	0.213	1.433	1.448
50	0.218	1.436	1.452
70	0.223	1.440	1.457
90	0.228	1.444	1.463
+	0.233	1.448	1.468
10	0.238	1.452	1.471
30	0.243	1.455	1.475
50	0.248	1.459	1.480
70	0.253	1.463	1.485
90	0.258	1.467	1.490
+	0.263	1.471	1.495
10	0.268	1.475	1.499
30	0.273	1.479	1.504
50	0.278	1.483	1.509
70	0.284	1.487	1.514
90	-0.289	1.491	1.519

δ	A	B	C
+49° 0'	-0.294	+1.496	+1.524
10	0.300	1.500	1.529
20	0.305	1.504	1.535-
30	0.310	1.508	1.540
40	0.316	1.512	1.545+
50	0.321	1.517	1.550
+50 0	0.327	1.521	1.556
10	0.332	1.525+	1.561
20	0.338	1.530	1.567
30	0.344	1.534	1.572
40	0.349	1.539	1.578
50	0.355+	1.543	1.583
+51 0	0.361	1.547	1.589
10	0.367	1.552	1.595-
20	0.373	1.557	1.601
30	0.378	1.561	1.606
40	0.384	1.566	1.612
50	0.390	1.570	1.618
+52 0	0.396	1.575+	1.624
10	0.403	1.580	1.630
20	0.409	1.585-	1.636
30	0.415-	1.589	1.643
40	0.421	1.594	1.649
50	0.427	1.599	1.655+
+53 0	0.434	1.604	1.662
10	0.440	1.609	1.668
20	0.446	1.614	1.675-
30	0.453	1.619	1.681
40	0.459	1.624	1.688
50	0.466	1.629	1.695-
+54 0	0.473	1.634	1.701
10	0.479	1.640	1.708
20	0.486	1.645-	1.715
30	0.493	1.650+	1.722
40	0.500-	1.655+	1.729
50	0.506	1.661	1.736
+55 0	0.513	1.666	1.743
10	0.520	1.672	1.751
20	0.528	1.677	1.758
30	0.535-	1.683	1.766
40	0.542	1.688	1.773
50	0.549	1.694	1.781
+56° 0'	0.556	1.700	1.788
10	0.564	1.705+	1.796
20	0.571	1.711	1.804
30	0.579	1.717	1.812
40	0.586	1.723	1.820
50	-0.594	+1.729	+1.828

C	B	A	E	
+1.934	+1.934	-0.934	0	+43°
1.933	1.933	0.933	10	
-1.932	1.934	0.932	20	
1.940	1.938	0.910	30	
+1.942	1.918	0.918	40	
1.990	1.914	0.981	50	
1.999	1.981	0.987	0	+50
1.991	1.982	0.982	10	
1.987	1.980	0.988	20	
1.978	1.974	0.974	30	
1.978	1.972	0.972	40	
1.983	1.973	0.999	50	
1.989	1.974	0.999	0	+51
-1.992	1.988	0.987	10	
1.991	1.987	0.972	20	
1.998	1.981	0.978	30	
1.918	1.988	0.984	40	
1.918	1.970	0.980	50	
1.934	1.977	0.986	0	+52
1.930	1.980	0.908	10	
1.928	1.982	0.909	20	
1.943	1.983	0.919	30	
1.949	1.984	0.981	40	
+1.999	1.989	0.987	50	
1.998	1.994	0.984	0	+53
1.998	1.999	0.940	10	
-1.979	1.914	0.948	20	
1.981	1.919	0.958	30	
1.988	1.984	0.983	40	
+1.999	1.989	0.986	50	
1.991	1.934	0.972	0	+54
1.998	1.949	0.979	10	
1.919	1.949	0.986	20	
1.988	1.980	0.988	30	
1.989	1.982	0.990	40	
1.989	1.981	0.998	50	
1.978	1.988	0.918	0	+55
1.981	1.978	0.920	10	
1.989	1.977	0.928	20	
1.988	1.988	0.938	30	
1.978	1.988	0.942	40	
1.981	1.994	0.949	50	
1.988	1.999	0.988	0	+56°
1.998	1.999	0.984	10	
1.994	1.971	0.971	20	
1.918	1.977	0.979	30	
1.980	1.988	0.988	40	
+1.988	+1.989	-0.994	50	

δ	A	B	C
+ 57° 0'	-0.602	+1.735-	+1.836
10	0.609	1.741	1.844
20	0.617	1.747	1.853
30	0.625+	1.753	1.861
40	0.633	1.759	1.870
50	0.641	1.765+	1.878
+ 58			
0	0.649	1.772	1.887
10	0.658	1.778	1.896
20	0.666	1.785-	1.905-
30	0.674	1.791	1.914
40	0.683	1.798	1.923
50	0.691	1.804	1.932
+ 59			
0	0.700	1.811	1.942
10	0.709	1.818	1.951
20	0.717	1.825-	1.961
30	0.726	1.832	1.970
40	0.735+	1.839	1.980
50	0.744	1.846	1.990
+ 60			
0	0.753	1.853	2.000
10	0.763	1.860	2.010
20	0.772	1.867	2.020
30	0.781	1.874	2.031
40	0.791	1.882	2.041
50	0.800	1.889	2.052
+ 61			
0	0.810	1.897	2.063
10	0.820	1.905-	2.074
20	0.830	1.912	2.085-
30	0.840	1.920	2.096
40	0.850	1.928	2.107
50	0.860	1.936	2.118
+ 62			
0	0.871	1.944	2.130
10	0.881	1.952	2.142
20	0.892	1.960	2.154
30	0.902	1.969	2.166
40	0.913	1.977	2.178
50	0.924	1.986	2.190
+ 63			
0	0.935	1.994	2.203
10	0.947	2.003	2.215+
20	0.958	2.012	2.228
30	0.969	2.021	2.241
40	0.981	2.030	2.254
50	0.993	2.039	2.268
+ 64 ° 0'			
0	1.005	2.048	2.281
10	1.017	2.057	2.295-
20	1.029	2.067	2.309
30	1.041	2.076	2.323
40	1.054	2.086	2.337
50	-1.066	2.096	2.352

2	A	B	C
+ 27	-0.808	+1.735	+1.838
10	0.609	1.741	1.844
20	0.617	1.747	1.853
30	+0.625	1.753	1.861
40	0.633	1.759	1.870
50	0.641	1.765	1.878
60	0.649	1.773	1.887
70	0.658	1.779	1.895
80	0.666	1.785	1.903
90	0.674	1.791	1.914
40	0.682	1.798	1.923
50	0.691	1.804	1.933
60	0.700	1.811	1.943
70	0.709	1.818	1.951
80	0.717	1.825	1.961
90	0.725	1.833	1.970
40	+0.733	1.839	1.980
50	0.744	1.848	1.990
60	0.753	1.855	2.000
70	0.763	1.860	2.010
80	0.773	1.867	2.020
90	0.781	1.874	2.031
40	0.791	1.883	2.041
50	0.800	1.889	2.052
60	0.810	1.897	2.063
70	0.820	1.905	2.074
80	0.830	1.913	2.085
90	0.840	1.920	2.095
40	0.850	1.928	2.107
50	0.860	1.936	2.118
60	0.871	1.944	2.130
70	0.881	1.952	2.143
80	0.893	1.960	2.154
90	0.903	1.969	2.166
40	0.913	1.977	2.178
50	0.924	1.986	2.190
60	0.935	1.994	2.203
70	0.947	2.003	2.215
80	0.958	2.013	2.228
90	0.969	2.021	2.241
40	0.981	2.030	2.254
50	0.993	2.039	2.268
60	1.005	2.048	2.281
70	1.017	2.057	2.295
80	1.029	2.067	2.309
90	1.041	2.076	2.323
40	1.054	2.085	2.337
50	-1.066	2.096	2.352

S	A	B	C
+65° 0'	-1.079	+2.106	+2.366
10	1.092	2.116	2.381
20	1.105-	2.126	2.396
30	1.118	2.136	2.411
40	1.132	2.147	2.427
50	1.145+	2.158	2.443
+66	1.159	2.168	2.459
10	1.173	2.179	2.475-
20	1.187	2.190	2.491
30	1.202	2.201	2.508
40	1.216	2.213	2.525-
50	1.231	2.224	2.542
+67	1.246	2.236	2.559
10	1.261	2.247	2.577
20	1.276	2.259	2.595-
30	1.292	2.271	2.613
40	1.308	2.284	2.632
50	1.324	2.296	2.650
+68	1.340	2.309	2.669
10	1.356	2.322	2.689
20	1.373	2.335-	2.709
30	1.390	2.348	2.728
40	1.407	2.361-	2.749
50	1.425-	2.375-	2.769
+69	1.442	2.389	2.790
10	1.461	2.403	2.812
20	1.479	2.417	2.833
30	1.497	2.431	2.855+
40	1.516	2.446	2.878
50	1.535+	2.461	2.901
+70	1.555-	2.476	2.924
10	1.575-	2.491	2.947
20	1.595-	2.507	2.971
30	1.615+	2.523	2.996
40	1.636	2.539	3.021
50	1.657	2.556	3.046
+71	1.679	2.572	3.072
10	1.700	2.589	3.098
20	1.723	2.607	3.124
30	1.745+	2.624	3.152
40	1.768	2.642	3.179
50	1.792	2.660	3.207
+72° 0'	1.816	2.679	3.236
10	1.840	2.698	3.265+
20	1.865-	2.717	3.295
30	1.890	2.736	3.326
40	1.915+	2.756	3.356
50	-1.941	+2.777	+3.388

C	B	A	2	
+8.388	+8.108	-1.078	+88°	0
8.381	8.118	1.088		10
8.388	8.128	1.108		20
8.411	8.138	1.118		30
8.427	8.147	1.138		40
8.448	8.158	1.148		50
8.458	8.168	1.158	+88°	0
8.478	8.178	1.178		10
8.491	8.180	1.187		20
8.508	8.201	1.208		30
8.525	8.215	1.218		40
8.548	8.224	1.231		50
8.558	8.238	1.248	+88°	0
8.577	8.247	1.261		10
8.595	8.258	1.278		20
8.618	8.271	1.298		30
8.638	8.284	1.308		40
8.650	8.298	1.324		50
8.668	8.308	1.340	+88°	0
8.688	8.328	1.358		10
8.708	8.338	1.378		20
8.728	8.348	1.390		30
8.748	8.361	1.407		40
8.768	8.378	1.428		50
8.780	8.388	1.448	+88°	0
8.818	8.408	1.461		10
8.838	8.417	1.478		20
8.858	8.431	1.487		30
8.878	8.448	1.518		40
8.901	8.461	1.538		50
8.924	8.478	1.558	+88°	0
8.947	8.491	1.578		10
8.971	8.507	1.598		20
8.998	8.528	1.618		30
9.021	8.538	1.638		40
9.048	8.558	1.657		50
9.078	8.578	1.678	+88°	0
9.098	8.588	1.708		10
9.124	8.607	1.728		20
9.158	8.624	1.748		30
9.178	8.648	1.768		40
9.207	8.650	1.788		50
9.238	8.678	1.818	+88°	0
9.258	8.698	1.848		10
9.288	8.717	1.868		20
9.328	8.738	1.890		30
9.358	8.758	1.918		40
9.388	8.777	1.941		50

δ	A	B	C
+73° 0'	-1.968	+2.797	+3.420
10	1.995+	2.818	3.453
20	2.023	2.840	3.487
30	2.051	2.862	3.521
40	2.080	2.884	3.556
50	2.109	2.907	3.592
+74 0	2.139	2.930	3.628
10	2.169	2.954	3.665+
20	2.201	2.978	3.703
30	2.232	3.003	3.742
40	2.265	3.028	3.782
50	2.298	3.054	3.822
+75 0	2.332	3.081	3.864
10	2.367	3.107	3.906
20	2.402	3.135	3.950
30	2.438	3.163	3.994
40	2.475+	3.192	4.039
50	2.513	3.221	4.086
+76 0	2.552	3.252	4.134
10	2.592	3.283	4.182
20	2.632	3.314	4.232
30	2.674	3.346	4.284
40	2.717	3.380	4.336
50	2.760	3.414	4.390
+77 0	2.805+	3.449	4.445+
10	2.851	3.484	4.502
20	2.898	3.521	4.560
30	2.947	3.559	4.620
40	2.996	3.597	4.682
50	3.047	3.637	4.745-
+78 0	3.100	3.678	4.810
10	3.154	3.719	4.876
20	3.209	3.763	4.945+
30	3.266	3.807	5.016
40	3.325-	3.852	5.089
50	3.385-	3.899	5.164
+79 0	3.447	3.948	5.241
10	3.511	3.997	5.320
20	3.577	4.049	5.403
30	3.645+	4.102	5.487
40	3.715+	4.156	5.575-
50	3.788	4.213	5.665+
+80° 0'	3.863	4.271	5.759
10	3.940	4.331	5.855+
20	4.020	4.394	5.955+
30	4.103	4.458	6.059
40	4.189	4.525-	6.166
50	4.278	+4.594	+6.277

S		A	B	C
+81°	39'	-4.764	+4.972	+6.886
	40	4.775	4.981	6.900
	41	4.786	4.989	6.914
	42	4.797	4.998	6.927
	43	4.808	5.006	6.941
	44	4.819	5.015-	6.955
	45	4.830	5.023	6.969
	46	4.841	5.032	6.983
	47	4.853	5.041-	6.997
	48	4.864	5.050-	7.011
	49	4.875+	5.058	7.025+
	50	4.887	5.067	7.040
	51	4.898	5.076	7.054
+82	5	5.063	5.204	7.260
	6	5.075-	5.214	7.276
	7	5.087	5.223	7.291
	8	5.099	5.233	7.306
	9	5.112	5.242	7.322
	10	5.124	5.252	7.337
	11	5.136	5.261	7.353
	12	5.149	5.271	7.368
	13	5.161	5.281	7.384
	14	5.174	5.291	7.400
	15	5.186	5.300	7.416
	16	5.199	5.310	7.431
	17	5.212	5.320	7.447
	55	5.739	5.730	8.109
	56	5.754	5.742	8.128
	57	5.769	5.753	8.148
	58	5.784	5.765+	8.167
	59	5.800	5.777	8.168
+83°	0'	5.815	5.789	8.206
	1	5.831	5.801	8.225
	2	5.846+	5.813	8.245-
	3	5.862	5.826	8.264
	4	5.877	5.838	8.284
	5	5.893	5.850+	8.304
	6	5.909	5.862	8.324
	7	5.925+	5.875-	8.344
	8	5.941	5.887	8.364
	9	5.957	5.900	8.384
	10	5.973	5.912	8.405-
	49	-6.672	+6.456	+9.284

C	B	A	2
+6.888 6.900 6.914 6.927 6.941 6.955 6.969 6.983 6.997 7.011 7.025+ 7.040 7.054	+4.978 4.991 4.999 4.998 5.006 5.015- 5.023 5.032 5.041- 5.050- 5.058 5.067 5.076	-4.964 4.977 4.986 4.997 5.008 4.918 4.930 4.941 4.953 4.964 4.975+ 4.984 4.993	+81° 39 40 41 42 43 44 45 46 47 48 49 50 51
7.068 7.082 7.096 7.110 7.124 7.138 7.152 7.166 7.180 7.194 7.208 7.222 7.236 7.250 7.264 7.278 7.292 7.306 7.320 7.334 7.348 7.362 7.376 7.390 7.404 7.418 7.432 7.446 7.460 7.474 7.488 7.502 7.516 7.530 7.544 7.558 7.572 7.586 7.600 7.614 7.628 7.642 7.656 7.670 7.684 7.698 7.712 7.726 7.740 7.754 7.768 7.782 7.796 7.810 7.824 7.838 7.852 7.866 7.880 7.894 7.908 7.922 7.936 7.950 7.964 7.978 7.992 8.006 8.020 8.034 8.048 8.062 8.076 8.090 8.104 8.118 8.132 8.146 8.160 8.174 8.188 8.202 8.216 8.230 8.244 8.258 8.272 8.286 8.300 8.314 8.328 8.342 8.356 8.370 8.384 8.398 8.412 8.426 8.440 8.454 8.468 8.482 8.496 8.510 8.524 8.538 8.552 8.566 8.580 8.594 8.608 8.622 8.636 8.650 8.664 8.678 8.692 8.706 8.720 8.734 8.748 8.762 8.776 8.790 8.804 8.818 8.832 8.846 8.860 8.874 8.888 8.902 8.916 8.930 8.944 8.958 8.972 8.986 8.999 9.013 9.027 9.041 9.055 9.069 9.083 9.097 9.111 9.125 9.139 9.153 9.167 9.181 9.195 9.209 9.223 9.237 9.251 9.265 9.279 9.293 9.307 9.321 9.335 9.349 9.363 9.377 9.391 9.405 9.419 9.433 9.447 9.461 9.475 9.489 9.503 9.517 9.531 9.545 9.559 9.573 9.587 9.601 9.615 9.629 9.643 9.657 9.671 9.685 9.699 9.713 9.727 9.741 9.755 9.769 9.783 9.797 9.811 9.825 9.839 9.853 9.867 9.881 9.895 9.909 9.923 9.937 9.951 9.965 9.979 9.993 10.007 10.021 10.035 10.049 10.063 10.077 10.091 10.105 10.119 10.133 10.147 10.161 10.175 10.189 10.203 10.217 10.231 10.245 10.259 10.273 10.287 10.301 10.315 10.329 10.343 10.357 10.371 10.385 10.399 10.413 10.427 10.441 10.455 10.469 10.483 10.497 10.511 10.525 10.539 10.553 10.567 10.581 10.595 10.609 10.623 10.637 10.651 10.665 10.679 10.693 10.707 10.721 10.735 10.749 10.763 10.777 10.791 10.805 10.819 10.833 10.847 10.861 10.875 10.889 10.903 10.917 10.931 10.945 10.959 10.973 10.987 10.999 11.013 11.027 11.041 11.055 11.069 11.083 11.097 11.111 11.125 11.139 11.153 11.167 11.181 11.195 11.209 11.223 11.237 11.251 11.265 11.279 11.293 11.307 11.321 11.335 11.349 11.363 11.377 11.391 11.405 11.419 11.433 11.447 11.461 11.475 11.489 11.503 11.517 11.531 11.545 11.559 11.573 11.587 11.601 11.615 11.629 11.643 11.657 11.671 11.685 11.699 11.713 11.727 11.741 11.755 11.769 11.783 11.797 11.811 11.825 11.839 11.853 11.867 11.881 11.895 11.909 11.923 11.937 11.951 11.965 11.979 11.993 12.007 12.021 12.035 12.049 12.063 12.077 12.091 12.105 12.119 12.133 12.147 12.161 12.175 12.189 12.203 12.217 12.231 12.245 12.259 12.273 12.287 12.301 12.315 12.329 12.343 12.357 12.371 12.385 12.399 12.413 12.427 12.441 12.455 12.469 12.483 12.497 12.511 12.525 12.539 12.553 12.567 12.581 12.595 12.609 12.623 12.637 12.651 12.665 12.679 12.693 12.707 12.721 12.735 12.749 12.763 12.777 12.791 12.805 12.819 12.833 12.847 12.861 12.875 12.889 12.903 12.917 12.931 12.945 12.959 12.973 12.987 12.999 13.013 13.027 13.041 13.055 13.069 13.083 13.097 13.111 13.125 13.139 13.153 13.167 13.181 13.195 13.209 13.223 13.237 13.251 13.265 13.279 13.293 13.307 13.321 13.335 13.349 13.363 13.377 13.391 13.405 13.419 13.433 13.447 13.461 13.475 13.489 13.503 13.517 13.531 13.545 13.559 13.573 13.587 13.601 13.615 13.629 13.643 13.657 13.671 13.685 13.699 13.713 13.727 13.741 13.755 13.769 13.783 13.797 13.811 13.825 13.839 13.853 13.867 13.881 13.895 13.909 13.923 13.937 13.951 13.965 13.979 13.993 14.007 14.021 14.035 14.049 14.063 14.077 14.091 14.105 14.119 14.133 14.147 14.161 14.175 14.189 14.203 14.217 14.231 14.245 14.259 14.273 14.287 14.301 14.315 14.329 14.343 14.357 14.371 14.385 14.399 14.413 14.427 14.441 14.455 14.469 14.483 14.497 14.511 14.525 14.539 14.553 14.567 14.581 14.595 14.609 14.623 14.637 14.651 14.665 14.679 14.693 14.707 14.721 14.735 14.749 14.763 14.777 14.791 14.805 14.819 14.833 14.847 14.861 14.875 14.889 14.903 14.917 14.931 14.945 14.959 14.973 14.987 14.999 15.013 15.027 15.041 15.055 15.069 15.083 15.097 15.111 15.125 15.139 15.153 15.167 15.181 15.195 15.209 15.223 15.237 15.251 15.265 15.279 15.293 15.307 15.321 15.335 15.349 15.363 15.377 15.391 15.405 15.419 15.433 15.447 15.461 15.475 15.489 15.503 15.517 15.531 15.545 15.559 15.573 15.587 15.601 15.615 15.629 15.643 15.657 15.671 15.685 15.699 15.713 15.727 15.741 15.755 15.769 15.783 15.797 15.811 15.825 15.839 15.853 15.867 15.881 15.895 15.909 15.923 15.937 15.951 15.965 15.979 15.993 16.007 16.021 16.035 16.049 16.063 16.077 16.091 16.105 16.119 16.133 16.147 16.161 16.175 16.189 16.203 16.217 16.231 16.245 16.259 16.273 16.287 16.301 16.315 16.329 16.343 16.357 16.371 16.385 16.399 16.413 16.427 16.441 16.455 16.469 16.483 16.497 16.511 16.525 16.539 16.553 16.567 16.581 16.595 16.609 16.623 16.637 16.651 16.665 16.679 16.693 16.707 16.721 16.735 16.749 16.763 16.777 16.791 16.805 16.819 16.833 16.847 16.861 16.875 16.889 16.903 16.917 16.931 16.945 16.959 16.973 16.987 16.999 17.013 17.027 17.041 17.055 17.069 17.083 17.097 17.111 17.125 17.139 17.153 17.167 17.181 17.195 17.209 17.223 17.237 17.251 17.265 17.279 17.293 17.307 17.321 17.335 17.349 17.363 17.377 17.391 17.405 17.419 17.433 17.447 17.461 17.475 17.489 17.503 17.517 17.531 17.545 17.559 17.573 17.587 17.601 17.615 17.629 17.643 17.657 17.671 17.685 17.699 17.713 17.727 17.741 17.755 17.769 17.783 17.797 17.811 17.825 17.839 17.853 17.867 17.881 17.895 17.909 17.923 17.937 17.951 17.965 17.979 17.993 18.007 18.021 18.035 18.049 18.063 18.077 18.091 18.105 18.119 18.133 18.147 18.161 18.175 18.189 18.203 18.217 18.231 18.245 18.259 18.273 18.287 18.301 18.315 18.329 18.343 18.357 18.371 18.385 18.399 18.413 18.427 18.441 18.455 18.469 18.483 18.497 18.511 18.525 18.539 18.553 18.567 18.581 18.595 18.609 18.623 18.637 18.651 18.665 18.679 18.693 18.707 18.721 18.735 18.749 18.763 18.777 18.791 18.805 18.819 18.833 18.847 18.861 18.875 18.889 18.903 18.917 18.931 18.945 18.959 18.973 18.987 18.999 19.013 19.027 19.041 19.055 19.069 19.083 19.097 19.111 19.125 19.139 19.153 19.167 19.181 19.195 19.209 19.223 19.237 19.251 19.265 19.279 19.293 19.307 19.321 19.335 19.349 19.363 19.377 19.391 19.405 19.419 19.433 19.447 19.461 19.475 19.489 19.503 19.517 19.531 19.545 19.559 19.573 19.587 19.601 19.615 19.629 19.643 19.657 19.671 19.685 19.699 19.713 19.727 19.741 19.755 19.769 19.783 19.797 19.811 19.825 19.839 19.853 19.867 19.881 19.895 19.909 19.923 19.937 19.951 19.965 19.979 19.993 20.007 20.021 20.035 20.049 20.063 20.077 20.091 20.105 20.119 20.133 20.147 20.161 20.175 20.189 20.203 20.217 20.231 20.245 20.259 20.273 20.287 20.301 20.315 20.329 20.343 20.357 20.371 20.385 20.399 20.413 20.427 20.441 20.455 20.469 20.483 20.497 20.511 20.525 20.539 20.553 20.567 20.581 20.595 20.609 20.623 20.637 20.651 20.665 20.679 20.693 20.707 20.721 20.735 20.749 20.763 20.777 20.791 20.805 20.819 20.833 20.847 20.861 20.875 20.889 20.903 20.917 20.931 20.945 20.959 20.973 20.987 20.999 21.013 21.027 21.041 21.055 21.069 21.083 21.097 21.111 21.125 21.139 21.153 21.167 21.181 21.195 21.209 21.223 21.237 21.251 21.265 21.279 21.293 21.307 21.321 21.335 21.349 21.363 21.377 21.391 21.405 21.419 21.433 21.447 21.461 21.475 21.489 21.503 21.517 21.531 21.545 21.559 21.573 21.587 21.601 21.615 21.629 21.643 21.657 21.671 21.685 21.699 21.713 21.727 21.741 21.755 21.769 21.783 21.797 21.811 21.825 21.839 21.853 21.867 21.881 21.895 21.909 21.923 21.937 21.951 21.965 21.979 21.993 22.007 22.021 22.035 22.049 22.063 22.077 22.091 22.105 22.119 22.133 22.147 22.161 22.175 22.189 22.203 22.217 22.231 22.245 22.259 22.273 22.287 22.301 22.315 22.329 22.343 22.357 22.371 22.385 22.399 22.413 22.427 22.441 22.455 22.469 22.483 22.497 22.511 22.525 22.539 22.553 22.567 22.581 22.595 22.609 22.623 22.637 22.651 22.665 22.679 22.693 22.707 22.721 22.735 22.749 22.763 22.777 22.791 22.805 22.819 22.833 22.847 22.861 22.875 22.889 22.903 22.917 22.931 22.945 22.959 22.973 22.987 22.999 23.013 23.027 23.041 23.055 23.069 23.083 23.097 23.111 23.125 23.139 23.153 23.167 23.181 23.195 23.209 23.223 23.237 23.251 23.265 23.279 23.293 23.307 23.321 23.335 23.349 23.363 23.377 23.391 23.405 23.419 23.433 23.447 23.461 23.475 23.489 23.503 23.517 23.531 23.545 23.559 23.573 23.587 23.601 23.615 23.629 23.643 23.657 23.671 23.685 23.699 23.713 23.727 23.741 23.755 23.769 23.783 23.797 23.811 23.825 23.839 23.853 23.867 23.881 23.895 23.909 23.923 23.937 23.951 23.965 23.979 23.993 24.007 24.021 24.035 24.049 24.063 24.077 24.091 24.105 24.119 24.133 24.147 24.161 24.175 24.189 24.203 24.217 24.231 24.245 24.259 24.273 24.287 24.301 24.315 24.329 24.343 24.357 24.371 24.385 24.399 24.413 24.427 24.441 24.455 24.469 24.483 24.497 24.511 24.525 24.539 24.553 24.567 24.581 24.595 24.609 24.623 24.637 24.651 24.665 24.679 24.693 24.707 24.721 24.735 24.749 24.763 24.777 24.791 24.805 24.819 24.833 24.847 24.861 24.875 24.889 24.903 24.917 24.931 24.945 24.959 24.973 24.987 24.999 25.013 25.027 25.041 25.055 25.069 25.083 25.097 25.111 25.125 25.139 25.153 25.167 25.181 25.195 25.209 25.223 25.237 25.251 25.265 25.279 25.293 25.307 25.321 25.335 25.349 25.363 25.377 25.391 25.405 25.419 25.433 25.447 25.461 25.475 25.489 25.503 25.517 25.531 25.545 25.559 25.573 25.587 25.601 25.615 25.629 25.643 25.657 25.671 25.685 25.699 25.713 25.727 25.741 25.755 25.769 25.783 25.797 25.811 25.825 25.839 25.853 25.867 25.881 25.895 25.909 25.923 25.937 25.951 25.965 25.979 25.993 26.007 26.021 26.035 26.049 26.063 26.077 26.091 26.105 26.119 26.133 26.147 26.161 26.175 26.189 26.203 26.217 26.231 26.245 26.259 26.273 26.287 26.301 26.315 26.329 26.343 26.357 26.371 26.385 26.399 26.413 26.427 26.441 26.455 26.469 26.483 26.497 26.511 26.525 26.539 26.553 26.567 26.581 26.595 26.609 26.623 26.637 26.651 			

δ		A	B	C
+83°	50'	-6.692	+6.471	+9.309
	51	6.712	6.487	9.334
	52	6.732	6.502	9.350
	53	6.752	6.518	9.385
	54	6.772	6.534	9.411
	55	6.793	6.550-	9.436
	56	6.813	6.566	9.462
	57	6.834	6.582	9.488
	58	6.855-	6.598	9.514
	59	6.876	6.614	9.540
+84	0	6.896	6.630	9.567
	1	6.918	6.647	9.593
	2	6.939	6.663	9.620
	3	6.960	6.680	9.647
	4	6.982	6.696	9.674
	5	7.003	6.713	9.701
+85°	14'	8.853	8.152	12.034
	15	8.886	8.178	12.076
	16	8.920	8.204	12.119
	17	8.953	8.230	12.161
	18	8.987	8.257	12.204
	19	9.022	8.283	12.248
	20	9.056	8.310	12.291
	21	9.091	8.337	12.335+
	37	9.684	8.798	13.084-
	38	9.724	8.829	13.134
	39	9.763	8.860	13.184
	40	9.803	8.891	13.235-
	41	9.844	8.922	13.286
	42	9.884	8.954	13.337
	43	9.925+	8.986	13.389
	44	9.967	9.018	13.441
	45	10.008	9.051	13.494
	46	10.050	9.083	13.547
	47	10.093	9.116	13.600
	48	10.135	9.149	13.654
	49	10.178	9.183	13.708
	50	10.222	9.216	13.763
	51	10.265+	9.250+	13.818
	52	-10.309	+9.284	+13.874

0	B	A	2
208.9+	174.2+	222.2-	208.9+
208.9+	208.9+	217.2	21
208.9+	208.9+	217.2	22
208.9+	208.9+	217.2	23
208.9+	208.9+	217.2	24
208.9+	208.9+	217.2	25
208.9+	208.9+	217.2	26
208.9+	208.9+	217.2	27
208.9+	208.9+	217.2	28
208.9+	208.9+	217.2	29
208.9+	208.9+	217.2	30
208.9+	208.9+	217.2	31
208.9+	208.9+	217.2	32
208.9+	208.9+	217.2	33
208.9+	208.9+	217.2	34
208.9+	208.9+	217.2	35
208.9+	208.9+	217.2	36
208.9+	208.9+	217.2	37
208.9+	208.9+	217.2	38
208.9+	208.9+	217.2	39
208.9+	208.9+	217.2	40
208.9+	208.9+	217.2	41
208.9+	208.9+	217.2	42
208.9+	208.9+	217.2	43
208.9+	208.9+	217.2	44
208.9+	208.9+	217.2	45
208.9+	208.9+	217.2	46
208.9+	208.9+	217.2	47
208.9+	208.9+	217.2	48
208.9+	208.9+	217.2	49
208.9+	208.9+	217.2	50
208.9+	208.9+	217.2	51
208.9+	208.9+	217.2	52
208.9+	208.9+	217.2	53
208.9+	208.9+	217.2	54
208.9+	208.9+	217.2	55
208.9+	208.9+	217.2	56
208.9+	208.9+	217.2	57
208.9+	208.9+	217.2	58
208.9+	208.9+	217.2	59
208.9+	208.9+	217.2	60
208.9+	208.9+	217.2	61
208.9+	208.9+	217.2	62
208.9+	208.9+	217.2	63
208.9+	208.9+	217.2	64
208.9+	208.9+	217.2	65
208.9+	208.9+	217.2	66
208.9+	208.9+	217.2	67
208.9+	208.9+	217.2	68
208.9+	208.9+	217.2	69
208.9+	208.9+	217.2	70
208.9+	208.9+	217.2	71
208.9+	208.9+	217.2	72
208.9+	208.9+	217.2	73
208.9+	208.9+	217.2	74
208.9+	208.9+	217.2	75
208.9+	208.9+	217.2	76
208.9+	208.9+	217.2	77
208.9+	208.9+	217.2	78
208.9+	208.9+	217.2	79
208.9+	208.9+	217.2	80
208.9+	208.9+	217.2	81
208.9+	208.9+	217.2	82
208.9+	208.9+	217.2	83
208.9+	208.9+	217.2	84
208.9+	208.9+	217.2	85
208.9+	208.9+	217.2	86
208.9+	208.9+	217.2	87
208.9+	208.9+	217.2	88
208.9+	208.9+	217.2	89
208.9+	208.9+	217.2	90
208.9+	208.9+	217.2	91
208.9+	208.9+	217.2	92
208.9+	208.9+	217.2	93
208.9+	208.9+	217.2	94
208.9+	208.9+	217.2	95
208.9+	208.9+	217.2	96
208.9+	208.9+	217.2	97
208.9+	208.9+	217.2	98
208.9+	208.9+	217.2	99
208.9+	208.9+	217.2	100

S			A	B	C
+86°	36'	0"	-12.673	+11.123	+16.862
		10	12.684	11.131	16.875+
		20	12.695-	11.140	16.889
		30	12.706	11.148	16.903
		40	12.717	11.157	16.917
		50	12.727	11.165+	16.931
37		0	12.738	11.174	16.945-
		10	12.749	11.182	16.958
		20	12.760	11.191	16.972-
		30	12.771	11.199	16.986
		40	12.782	11.208	17.000
		50	12.794	11.217	17.014
38		0	12.805-	11.225+	17.028
+87	10	0	15.336	13.194	20.230
		10	15.352	13.206	20.250
		20	15.367	13.218	20.270
		30	15.383	13.230	20.290
		40	15.399-	13.243	20.310
		50	15.415-	13.255	20.330
11		0	15.430	13.267	20.350-
		10	15.446	13.280	20.370
		20	15.462	13.292	20.390
		30	15.478	13.304	20.410
		40	15.494	13.317	20.430
		50	15.510	13.329	20.451
12		0	15.526	13.342	20.471
		10	15.542	13.354	20.491
		20	15.558	13.367	20.512
		30	15.574	13.379	20.532
		40	15.590	13.392	20.552
		50	15.607	13.404	20.573
13		0	15.623	13.417	20.593
		10	15.639	13.430	20.614
		20	15.655+	13.442	20.635-
		30	15.672	13.455-	20.655+
		40	15.688	13.468	20.676
		50	15.704	13.480	20.679
14		0	15.721	13.493	20.717
+88	14	20	-25.059	+20.756	+32.540

14	80	- 32.053	+ 30.756	+ 25.540
14	0	13.731	13.463	30.714
50	50	13.704	13.480	30.679
40	40	13.688	13.463	30.676
30	30	13.673	13.455-	30.658+
20	20	13.657	13.443	30.633-
10	10	13.639	13.430	30.614
0	0	13.623	13.417	30.593
50	50	13.607	13.404	30.573
40	40	13.590	13.393	30.553
30	30	13.574	13.379	30.533
20	20	13.558	13.367	30.513
10	10	13.543	13.354	30.491
0	0	13.528	13.343	30.471
50	50	13.510	13.329	30.451
40	40	13.494	13.317	30.430
30	30	13.478	13.304	30.410
20	20	13.463	13.293	30.390
10	10	13.448	13.280	30.370
0	0	13.430	13.267	30.350-
50	50	13.413-	13.255	30.330
40	40	13.398-	13.243	30.310
30	30	13.383	13.230	30.290
20	20	13.367	13.218	30.270
10	10	13.352	13.206	30.250
0	0	13.336	13.194	30.230
50	50	13.320-	11.183	14.033
40	40	13.304	11.171	14.014
30	30	13.288	11.159	14.000
20	20	13.271	11.148	13.986
10	10	13.255	11.137	13.973
0	0	13.239	11.125	13.958
50	50	13.223	11.113	13.943
40	40	13.207	11.101	13.928
30	30	13.191	11.089	13.913
20	20	13.175	11.077	13.898
10	10	13.159	11.065	13.883
0	0	13.143	11.053	13.868
50	50	13.127	11.041	13.853
40	40	13.111	11.029	13.838
30	30	13.095	11.017	13.823
20	20	13.079	11.005	13.808
10	10	13.063	10.993	13.793
0	0	13.047	10.981	13.778
50	50	13.031	10.969	13.763
40	40	13.015	10.957	13.748
30	30	13.000	10.945	13.733
20	20	12.984	10.933	13.718
10	10	12.968	10.921	13.703
0	0	12.952	10.909	13.688
50	50	12.936	10.897	13.673
40	40	12.920	10.885	13.658
30	30	12.904	10.873	13.643
20	20	12.888	10.861	13.628
10	10	12.872	10.849	13.613
0	0	12.856	10.837	13.598
50	50	12.840	10.825	13.583
40	40	12.824	10.813	13.568
30	30	12.808	10.801	13.553
20	20	12.792	10.789	13.538
10	10	12.776	10.777	13.523
0	0	12.760	10.765	13.508
50	50	12.744	10.753	13.493
40	40	12.728	10.741	13.478
30	30	12.712	10.729	13.463
20	20	12.696	10.717	13.448
10	10	12.680	10.705	13.433
0	0	12.664	10.693	13.418
50	50	12.648	10.681	13.403
40	40	12.632	10.669	13.388
30	30	12.616	10.657	13.373
20	20	12.600	10.645	13.358
10	10	12.584	10.633	13.343
0	0	12.568	10.621	13.328
50	50	12.552	10.609	13.313
40	40	12.536	10.597	13.298
30	30	12.520	10.585	13.283
20	20	12.504	10.573	13.268
10	10	12.488	10.561	13.253
0	0	12.472	10.549	13.238
50	50	12.456	10.537	13.223
40	40	12.440	10.525	13.208
30	30	12.424	10.513	13.193
20	20	12.408	10.501	13.178
10	10	12.392	10.489	13.163
0	0	12.376	10.477	13.148
50	50	12.360	10.465	13.133
40	40	12.344	10.453	13.118
30	30	12.328	10.441	13.103
20	20	12.312	10.429	13.088
10	10	12.296	10.417	13.073
0	0	12.280	10.405	13.058
50	50	12.264	10.393	13.043
40	40	12.248	10.381	13.028
30	30	12.232	10.369	13.013
20	20	12.216	10.357	12.998
10	10	12.200	10.345	12.983
0	0	12.184	10.333	12.968
50	50	12.168	10.321	12.953
40	40	12.152	10.309	12.938
30	30	12.136	10.297	12.923
20	20	12.120	10.285	12.908
10	10	12.104	10.273	12.893
0	0	12.088	10.261	12.878
50	50	12.072	10.249	12.863
40	40	12.056	10.237	12.848
30	30	12.040	10.225	12.833
20	20	12.024	10.213	12.818
10	10	12.008	10.201	12.803
0	0	11.992	10.189	12.788
50	50	11.976	10.177	12.773
40	40	11.960	10.165	12.758
30	30	11.944	10.153	12.743
20	20	11.928	10.141	12.728
10	10	11.912	10.129	12.713
0	0	11.896	10.117	12.698
50	50	11.880	10.105	12.683
40	40	11.864	10.093	12.668
30	30	11.848	10.081	12.653
20	20	11.832	10.069	12.638
10	10	11.816	10.057	12.623
0	0	11.800	10.045	12.608
50	50	11.784	10.033	12.593
40	40	11.768	10.021	12.578
30	30	11.752	10.009	12.563
20	20	11.736	9.997	12.548
10	10	11.720	9.985	12.533
0	0	11.704	9.973	12.518
50	50	11.688	9.961	12.503
40	40	11.672	9.949	12.488
30	30	11.656	9.937	12.473
20	20	11.640	9.925	12.458
10	10	11.624	9.913	12.443
0	0	11.608	9.901	12.428
50	50	11.592	9.889	12.413
40	40	11.576	9.877	12.398
30	30	11.560	9.865	12.383
20	20	11.544	9.853	12.368
10	10	11.528	9.841	12.353
0	0	11.512	9.829	12.338
50	50	11.496	9.817	12.323
40	40	11.480	9.805	12.308
30	30	11.464	9.793	12.293
20	20	11.448	9.781	12.278
10	10	11.432	9.769	12.263
0	0	11.416	9.757	12.248
50	50	11.400	9.745	12.233
40	40	11.384	9.733	12.218
30	30	11.368	9.721	12.203
20	20	11.352	9.709	12.188
10	10	11.336	9.697	12.173
0	0	11.320	9.685	12.158
50	50	11.304	9.673	12.143
40	40	11.288	9.661	12.128
30	30	11.272	9.649	12.113
20	20	11.256	9.637	12.098
10	10	11.240	9.625	12.083
0	0	11.224	9.613	12.068
50	50	11.208	9.601	12.053
40	40	11.192	9.589	12.038
30	30	11.176	9.577	12.023
20	20	11.160	9.565	12.008
10	10	11.144	9.553	11.993
0	0	11.128	9.541	11.978
50	50	11.112	9.529	11.963
40	40	11.096	9.517	11.948
30	30	11.080	9.505	11.933
20	20	11.064	9.493	11.918
10	10	11.048	9.481	11.903
0	0	11.032	9.469	11.888
50	50	11.016	9.457	11.873
40	40	11.000	9.445	11.858
30	30	10.984	9.433	11.843
20	20	10.968	9.421	11.828
10	10	10.952	9.409	11.813
0	0	10.936	9.397	11.798
50	50	10.920	9.385	11.783
40	40	10.904	9.373	11.768
30	30	10.888	9.361	11.753
20	20	10.872	9.349	11.738
10	10	10.856	9.337	11.723
0	0	10.840	9.325	11.708
50	50	10.824	9.313	11.693
40	40	10.808	9.301	11.678
30	30	10.792	9.289	11.663
20	20	10.776	9.277	11.648
10	10	10.760	9.265	11.633
0	0	10.744	9.253	11.618
50	50	10.728	9.241	11.603
40	40	10.712	9.229	11.588
30	30	10.696	9.217	11.573
20	20	10.680	9.205	11.558
10	10	10.664	9.193	11.543
0	0	10.648	9.181	11.528
50	50	10.632	9.169	11.513
40	40	10.616	9.157	11.498
30	30	10.600	9.145	11.483
20	20	10.584	9.133	11.468
10	10	10.568	9.121	11.453
0	0	10.552	9.109	11.438
50	50	10.536	9.097	11.423
40	40	10.520	9.085	11.408
30	30	10.504	9.073	11.393
20	20	10.488	9.061	11.378
10	10	10.472	9.049	11.363
0	0	10.456	9.037	11.348
50	50	10.440	9.025	11.333
40	40	10.424	9.013	11.318
30	30	10.408	9.001	11.303
20	20	10.392	8.989	11.288
10	10	10.376	8.977	11.273
0	0	10.360	8.965	11.258
50	50	10.344	8.953	11.243
40	40	10.328	8.941	11.228
30	30	10.312	8.929	11.213
20	20	10.296	8.917	11.198
10	10	10.280	8.905	11.183
0	0	10.264	8.893	11.168
50	50	10.248	8.881	11.153
40	40	10.232	8.869	11.138
30	30	10.216	8.857	11.123
20	20	10.200	8.845	11.108
10	10	10.184	8.833	11.093
0	0	10.168	8.821	11.078
50	50	10.152	8.809	11.063
40	40	10.136	8.797	11.048
30	30	10.120	8.785	11.033
20	20	10.104	8.773	11.018
10	10	10.088	8.761	11.003
0	0	10.072	8.749	10.988
50	50	10.056	8.737	10.973
40	40	10.040	8.725	10.958
30	30	10.024	8.713	10.943
20	20	10.008	8.701	10.928
10	10	9.992	8.689	10.913
0	0	9.976	8.677	10.898
50	50	9.960	8.665	

δ			A	B	C
+88°	41'	0"	- 33.730	+ 27.499	+43.520
		10	33.803	27.556	43.612
		20	33.876	27.613	43.704
		30	33.949	27.670	43.797
		40	34.023	27.727	43.890
		50	34.097	27.784	43.983
42	0		34.171	27.842	44.077
	10		34.245+	27.900	44.172
	20		34.320	27.958	44.267
	30		34.395+	28.017	44.362
	40		34.471	28.075+	44.457
	50		34.547	28.134	44.553
43	0		34.623	28.193	44.650-
	10		34.699	28.253	44.747
	20		34.776	28.313	44.844
	30		34.853	28.373	44.942
	40		34.931	28.433	45.040
	50		35.008	28.493	45.138
44	0		35.087	28.554	45.237
	10		35.165	28.615+	45.337
	20		35.244	28.677	45.436
	30		35.323	28.738	45.537
	40		35.403	28.800	45.637
	50		35.482	28.862	45.739
45	0		35.563	28.924	45.840
	10		35.643	28.987	45.942
	20		35.724	29.050	46.045-
	30		35.806	29.113	46.148
	40		35.887	29.177	46.251
	50		35.969	29.241	46.355+
46	0		36.052	29.305-	46.460
	10		36.134	29.369	46.564
	20		36.218	29.434	46.670
	30		36.301	29.499	46.776
	40		36.385+	29.564	46.882
	50		36.469	29.630	46.989
47	0		36.554	29.696	47.096
	10		36.639	29.762	47.204
	20		36.725-	29.828	47.312
	30		36.811	29.895-	47.421
	40		36.897	29.962	47.530
	50		36.983	30.029	47.640
48	0	"	37.070	30.097	47.750
	10		37.158	30.165+	47.861
	20		37.246	30.233	47.972
	30		37.334	30.302	48.084
	40		37.423	30.371	48.196
	50		- 37.512	+ 30.440	+ 48.309

δ	A	B	C
$+88^{\circ} 49' 0''$	- 37.601	$+30.510$	$+48.422$
10	37.691	30.580	48.536
20	37.782	30.650+	48.651
30	37.872	30.721	48.766
40	37.964	30.792	48.881
50	38.055+	30.863	48.997
50 0	38.148	30.935-	49.114
10	38.240	31.007	49.231
20	38.333	31.079	49.349
30	38.426	31.152	49.467
40	38.520	31.225-	49.586
50	38.615-	31.298	49.706
51 0	38.709	31.372	49.826
10	38.805-	31.446	49.946
20	38.900	31.520	50.068
30	38.997	31.595+	50.189
40	39.093	31.670	50.312
50	39.190	31.746	50.435-
52 0	39.288	31.822	50.558
10	39.386	31.898	50.683
20	39.484	31.975-	50.807
30	39.583	32.052	50.933
40	39.683	32.129	51.059
50	39.783	32.207	51.186
53 0	39.884	32.285-	51.313
10	39.985-	32.363	51.441
20	40.086	32.442	51.569
30	40.188	32.522	51.699
40	40.291	32.602	51.829
50	40.394	32.682	51.959
54 0	40.497	32.762	52.090
10	40.601	32.843	52.222
20	40.706	32.925-	52.355-
30	40.811	33.006	52.488
40	40.917	33.089	52.622
50	41.023	33.171	52.756
55 0	41.130	33.254	52.892
10	41.237	33.337	53.028
20	41.345+	33.422	53.164
30	41.454	33.506	53.302
40	41.563	33.591	53.440
50	41.672	33.676	53.578
56 0	41.782	33.762	53.718
57 0	42.455+	34.285	54.570
10	42.570	34.374	54.715+
20	- 42.685-	$+34.463$	$+54.861$

S			A	B	C
+88°	57'	30"	- 42.800	+34.553	+55.007
		40	42.916	34.643	55.154
		50	43.033	34.734	55.302
	58	0	43.150	34.825+	55.451
		10	43.268	34.917	55.600
		20	43.387	35.010	55.750+
		30	43.506	35.102	55.901
		40	43.626	35.196	56.053
		50	43.747	35.289	56.206
	59	0	43.868	35.384	56.359
		10	43.990	35.478	56.514
		20	44.112	35.574	56.669
		30	44.236	35.670	56.825+
		40	44.360	35.766	56.982
		50	44.484	35.863	57.140
+89	0	0	44.609	35.960	57.299
		10	44.735+	36.058	57.458
		20	44.862	36.157	57.619
		30	44.990	36.256	57.780
		40	45.118	36.356	57.942
		50	45.246	36.456	58.106
	1	0	45.376	36.557	58.270
		10	45.506	36.658	58.435-
		20	45.637	36.760	58.601
		30	45.769	36.862	58.768
		40	45.902	36.965+	58.936
		50	46.035+	37.069	59.104
	2	0	- 46.169	+37.173	+59.274

δ			A	B	C
+ 89°	2'	0"	+47.397	- 35.595-	- 59.274
	1	50	47.263	35.490	59.104
		40	47.130	35.387	58.936
		30	46.997	35.284	58.768
		20	46.865+	35.181	58.601
		10	46.734	35.079	58.435-
		0	46.604	34.978	58.270
	0	50	46.474	34.877	58.106
		40	46.345+	34.777	57.942
		30	46.217	34.677	57.780
		20	46.090	34.578	57.619
		10	45.963	34.480	57.458
		0	45.837	34.382	57.299
88	59	50	45.712	34.284	57.140
		40	45.587	34.187	56.982
		30	45.463	34.091	56.825+
		20	45.340	33.995	56.669
		10	45.218	33.900	56.514
		0	45.096	33.805-	56.359
	58	50	44.974	33.711	56.206
		40	44.854	33.617	56.053
		30	44.734	33.524	55.904
		20	44.615-	33.431	55.750+
		10	44.496	33.338	55.600
		0	44.378	33.247	55.451
	57	50	44.261	33.155+	55.302
		40	44.144	33.065-	55.154
		30	44.028	32.974	55.007
		20	43.912	32.885-	54.861
		10	43.798	32.795+	54.715
		0	43.683	32.706	54.570
	56	0	43.010	32.183	53.718
	55	50	42.900	32.097	53.578
		40	42.790	32.012	53.440
		30	42.681	31.927	53.302
		20	42.673	31.843	53.164
		10	42.465+	31.759	53.028
		0	42.358	31.675+	52.892
	54	50	42.251	31.592	52.756
		40	42.145-	31.510	52.622
		30	42.039	31.428	52.488
		20	41.934	31.346	52.355-
		10	41.829	31.264	52.222
		0	+41.725+	- 31.183	- 52.090

C	B	A	S	
			88	88
47.254	32.825	47.254	0	0
32.104	32.430	47.253	20	1
32.338	32.834	47.130	40	
32.758	32.884	48.937	30	
32.901	32.181	48.882	20	
32.432	32.073	48.784	10	
32.270	34.373	48.604	0	
32.108	34.373	48.474	20	3
32.948	34.777	48.343	40	
32.780	34.677	48.217	30	
32.612	34.579	48.090	20	
32.438	34.480	47.963	10	
32.282	34.382	47.837	0	
32.120	34.284	47.712	20	88
32.988	34.187	47.587	40	
32.823	34.091	47.462	30	
32.659	33.995	47.340	20	
32.514	33.900	47.218	10	
32.382	33.802	47.090	0	
32.208	33.711	46.974	20	88
32.038	33.617	46.854	40	
32.904	33.524	46.734	30	
32.780	33.431	46.612	20	
32.600	33.338	46.498	10	
32.481	33.247	46.378	0	
32.303	33.155	46.261	20	87
32.134	33.062	46.144	40	
32.007	32.974	46.028	30	
32.881	32.882	45.912	20	
32.712	32.789	45.798	10	
32.570	32.708	45.683	0	
32.418	32.183	45.610	20	86
32.278	32.097	45.500	40	86
32.440	32.018	45.790	30	
32.303	31.937	45.681	20	
32.194	31.845	45.573	10	
32.088	31.759	45.465	0	
32.932	31.674	45.358	20	
32.780	31.588	45.251	40	84
32.628	31.510	45.143	30	
32.488	31.428	45.033	20	
32.332	31.340	44.924	10	
32.232	31.254	44.823	0	
32.030	31.169	44.724	20	

LOWER CULMINATION

25

6		A	B	C
+88°	53'50"	+41.622	- 31.103	- 51.959
	40	41.518	31.023	51.829
	30	41.416	30.943	51.699
	20	41.314	30.864	51.569
	10	41.212	30.785-	51.441
	0	41.111	30.706	51.313
52	50	41.011	30.628	51.186
	40	40.911	30.550	51.059
	30	40.811	30.473	50.933
	20	40.712	30.396	50.807
	10	40.614	30.319	50.683
	0	40.516	30.243	50.558
51	50	40.418	30.167	50.435-
	40	40.321	30.091	50.312
	30	40.224	30.016	50.189
	20	40.128	29.942	50.068
	10	40.032	29.867	49.946
	0	39.937	29.793	49.826
50	50	39.842-	29.719	49.706
	40	39.748	29.646	49.586
	30	39.654	29.573	49.467
	20	39.561	29.500	49.349
	10	39.468	29.428	49.231
	0	39.375+	29.356	49.114
49	50	39.283	29.284	48.997
	40	39.192	29.213	48.881
	30	39.100	29.142	48.766
	20	39.010	29.072	48.651
	10	38.919	29.001	48.563=36
	0	38.829	28.931	48.422
+67	48	38.740	28.862	48.309
	40	38.651	28.792	48.196
	30	38.562	28.723	48.084
	20	38.474	28.655-	47.972
	10	38.386	28.586	47.861
	0	38.298	28.518	47.750
47	50	38.211	28.451	47.640
	40	38.125-	28.383	47.530
	30	38.038	28.316	47.421
	20	37.952	28.249	47.312
	10	37.867	28.183	47.204
	0	37.782	28.117	47.096
46	50	37.697	28.051	46.989
	40	37.613	27.985+	46.882
	30	37.529	27.920	46.776
	20	37.445+	27.855+	46.670
	10	37.362	27.790	46.564
	0	+37.279	- 27.726	- 46.460

C	B	A	D	
			0	1
51.353	- 51.103	+41.633	53.30	+38
51.353	51.083	41.613	40	
51.353	50.943	41.413	30	
51.353	50.863	41.313	20	
51.441	50.783	41.213	10	
51.313	50.703	41.111	0	
51.183	50.623	41.011	50	52
51.033	50.550	40.911	40	
50.933	50.473	40.811	30	
50.803	50.393	40.713	20	
50.683	50.313	40.613	10	
50.553	50.243	40.513	0	
50.433	50.163	40.413	50	51
50.313	50.091	40.321	40	
50.183	50.013	40.234	30	
50.053	50.943	40.133	20	
49.943	50.863	40.033	10	
49.823	50.783	39.933	0	
49.703	50.713	39.843	50	50
49.583	50.643	39.743	40	
49.453	50.573	39.643	30	
49.343	50.500	39.551	20	
49.221	50.423	39.453	10	
49.113	50.353	39.353	0	
49.003	50.283	39.253	50	49
48.883	50.213	39.153	40	
48.753	50.143	39.100	30	
48.621	50.073	39.010	20	
48.503	50.001	38.913	10	
48.423	50.921	38.823	0	
48.303	50.843	38.740	50	48
48.183	50.763	38.651	40	
48.063	50.683	38.553	30	
47.943	50.603	38.454	20	
47.821	50.523	38.353	10	
47.703	50.413	38.253	0	
47.583	50.341	38.151	50	47
47.453	50.263	38.123	40	
47.321	50.183	38.033	30	
47.213	50.103	37.933	20	
47.103	50.023	37.833	10	
47.003	50.113	37.733	0	
46.883	50.021	37.633	50	46
46.753	50.921	37.513	40	
46.623	50.821	37.423	30	
46.503	50.721	37.323	20	
46.383	50.623	37.223	10	
46.253	50.523	37.123	0	
46.123	50.423	37.023	50	45
46.003	50.323	36.923	40	
45.883	50.223	36.823	30	
45.753	50.123	36.723	20	
45.623	50.023	36.623	10	
45.503	50.923	36.523	0	
45.383	50.823	36.423	50	44
45.253	50.723	36.323	40	
45.123	50.623	36.223	30	
45.003	50.523	36.123	20	
44.883	50.423	36.023	10	
44.753	50.323	35.923	0	
44.623	50.223	35.823	50	43
44.503	50.123	35.723	40	
44.383	50.023	35.623	30	
44.253	50.923	35.523	20	
44.123	50.823	35.423	10	
44.003	50.723	35.323	0	

LOWER CULMINATION

S			A	B	C
+88°	45'	50"	+37.197	- 27.662	- 46.355+
		40	37.115	27.598	46.251
		30	37.033	27.535-	46.148
		20	36.952	27.471	46.045-
		10	36.871	27.408	45.942
		0	36.791	27.346	45.840
	44	50	36.710	27.283	45.739
		40	36.630	27.221	45.637
		30	36.551	27.159	45.537
		20	36.472	27.098	45.436
		10	36.393	27.036	45.337
		0	36.314	26.975+	45.337
+86°	43	50	36.236	26.915-	45.138
		40	36.158	26.854	45.040
+86°	37	30	36.081	26.794	44.942
		20	36.004	26.734	44.844
		10	35.927	26.674	44.747
		0	35.851	26.615-	44.650-
	42	50	35.774	26.556	44.553
		40	35.699	26.497	44.457
36		30	35.623	26.438	44.362
		20	35.548	26.379	44.267
		10	35.473	26.321	44.172
		0	35.399	26.263	44.077
	41	50	35.324	26.206	43.983
		40	35.251	26.148	43.890
		30	35.177	26.091	43.797
+85°		20	35.104	26.034	43.704
		10	35.031	25.977	43.612
		0	34.958	25.921	43.520
+87	14	0	16.949	11.914	20.717
	13	50	16.932	11.902	20.697
		40	16.916	11.889	20.676
		30	16.900	11.876	20.655+
		20	16.883	11.864	20.635-
		10	16.867	11.851	20.614
		0	16.851	11.838	20.593
	12	50	16.834	11.826	20.573
		40	16.818	11.813	20.552
		30	16.802	11.800	20.532
		20	16.786	11.788	20.512
		10	16.770	11.775+	20.491
		0	+16.754	- 11.763	- 20.471

A	B	C
10.794	11.763	80.471
10.770	11.749	80.491
10.736	11.733	80.513
10.702	11.709	80.538
10.678	11.685	80.563
10.654	11.661	80.587
10.630	11.637	80.612
10.606	11.613	80.637
10.582	11.589	80.662
10.558	11.565	80.687
10.534	11.541	80.712
10.510	11.517	80.737
10.486	11.493	80.762
10.462	11.469	80.787
10.438	11.445	80.812
10.414	11.421	80.837
10.390	11.397	80.862
10.366	11.373	80.887
10.342	11.349	80.912
10.318	11.325	80.937
10.294	11.301	80.962
10.270	11.277	80.987
10.246	11.253	81.012
10.222	11.229	81.037
10.198	11.205	81.062
10.174	11.181	81.087
10.150	11.157	81.112
10.126	11.133	81.137
10.102	11.109	81.162
10.078	11.085	81.187
10.054	11.061	81.212
10.030	11.037	81.237
10.006	11.013	81.262
9.982	10.989	81.287
9.958	10.965	81.312
9.934	10.941	81.337
9.910	10.917	81.362
9.886	10.893	81.387
9.862	10.869	81.412
9.838	10.845	81.437
9.814	10.821	81.462
9.790	10.797	81.487
9.766	10.773	81.512
9.742	10.749	81.537
9.718	10.725	81.562
9.694	10.701	81.587
9.670	10.677	81.612
9.646	10.653	81.637
9.622	10.629	81.662
9.598	10.605	81.687
9.574	10.581	81.712
9.550	10.557	81.737
9.526	10.533	81.762
9.502	10.509	81.787
9.478	10.485	81.812
9.454	10.461	81.837
9.430	10.437	81.862
9.406	10.413	81.887
9.382	10.389	81.912
9.358	10.365	81.937
9.334	10.341	81.962
9.310	10.317	81.987
9.286	10.293	82.012
9.262	10.269	82.037
9.238	10.245	82.062
9.214	10.221	82.087
9.190	10.197	82.112
9.166	10.173	82.137
9.142	10.149	82.162
9.118	10.125	82.187
9.094	10.101	82.212
9.070	10.077	82.237
9.046	10.053	82.262
9.022	10.029	82.287
8.998	10.005	82.312
8.974	9.981	82.337
8.950	9.957	82.362
8.926	9.933	82.387
8.902	9.909	82.412
8.878	9.885	82.437
8.854	9.861	82.462
8.830	9.837	82.487
8.806	9.813	82.512
8.782	9.789	82.537
8.758	9.765	82.562
8.734	9.741	82.587
8.710	9.717	82.612
8.686	9.693	82.637
8.662	9.669	82.662
8.638	9.645	82.687
8.614	9.621	82.712
8.590	9.597	82.737
8.566	9.573	82.762
8.542	9.549	82.787
8.518	9.525	82.812
8.494	9.501	82.837
8.470	9.477	82.862
8.446	9.453	82.887
8.422	9.429	82.912
8.398	9.405	82.937
8.374	9.381	82.962
8.350	9.357	82.987
8.326	9.333	83.012
8.302	9.309	83.037
8.278	9.285	83.062
8.254	9.261	83.087
8.230	9.237	83.112
8.206	9.213	83.137
8.182	9.189	83.162
8.158	9.165	83.187
8.134	9.141	83.212
8.110	9.117	83.237
8.086	9.093	83.262
8.062	9.069	83.287
8.038	9.045	83.312
8.014	9.021	83.337
7.990	8.997	83.362
7.966	8.973	83.387
7.942	8.949	83.412
7.918	8.925	83.437
7.894	8.901	83.462
7.870	8.877	83.487
7.846	8.853	83.512
7.822	8.829	83.537
7.798	8.805	83.562
7.774	8.781	83.587
7.750	8.757	83.612
7.726	8.733	83.637
7.702	8.709	83.662
7.678	8.685	83.687
7.654	8.661	83.712
7.630	8.637	83.737
7.606	8.613	83.762
7.582	8.589	83.787
7.558	8.565	83.812
7.534	8.541	83.837
7.510	8.517	83.862
7.486	8.493	83.887
7.462	8.469	83.912
7.438	8.445	83.937
7.414	8.421	83.962
7.390	8.397	83.987
7.366	8.373	84.012
7.342	8.349	84.037
7.318	8.325	84.062
7.294	8.301	84.087
7.270	8.277	84.112
7.246	8.253	84.137
7.222	8.229	84.162
7.198	8.205	84.187
7.174	8.181	84.212
7.150	8.157	84.237
7.126	8.133	84.262
7.102	8.109	84.287
7.078	8.085	84.312
7.054	8.061	84.337
7.030	8.037	84.362
7.006	8.013	84.387
6.982	7.989	84.412
6.958	7.965	84.437
6.934	7.941	84.462
6.910	7.917	84.487
6.886	7.893	84.512
6.862	7.869	84.537
6.838	7.845	84.562
6.814	7.821	84.587
6.790	7.797	84.612
6.766	7.773	84.637
6.742	7.749	84.662
6.718	7.725	84.687
6.694	7.701	84.712
6.670	7.677	84.737
6.646	7.653	84.762
6.622	7.629	84.787
6.598	7.605	84.812
6.574	7.581	84.837
6.550	7.557	84.862
6.526	7.533	84.887
6.502	7.509	84.912
6.478	7.485	84.937
6.454	7.461	84.962
6.430	7.437	84.987
6.406	7.413	85.012
6.382	7.389	85.037
6.358	7.365	85.062
6.334	7.341	85.087
6.310	7.317	85.112
6.286	7.293	85.137
6.262	7.269	85.162
6.238	7.245	85.187
6.214	7.221	85.212
6.190	7.197	85.237
6.166	7.173	85.262
6.142	7.149	85.287
6.118	7.125	85.312
6.094	7.101	85.337
6.070	7.077	85.362
6.046	7.053	85.387
6.022	7.029	85.412
5.998	7.005	85.437
5.974	6.981	85.462
5.950	6.957	85.487
5.926	6.933	85.512
5.902	6.909	85.537
5.878	6.885	85.562
5.854	6.861	85.587
5.830	6.837	85.612
5.806	6.813	85.637
5.782	6.789	85.662
5.758	6.765	85.687
5.734	6.741	85.712
5.710	6.717	85.737
5.686	6.693	85.762
5.662	6.669	85.787
5.638	6.645	85.812
5.614	6.621	85.837
5.590	6.597	85.862
5.566	6.573	85.887
5.542	6.549	85.912
5.518	6.525	85.937
5.494	6.501	85.962
5.470	6.477	85.987
5.446	6.453	86.012
5.422	6.429	86.037
5.398	6.405	86.062
5.374	6.381	86.087
5.350	6.357	86.112
5.326	6.333	86.137
5.302	6.309	86.162
5.278	6.285	86.187
5.254	6.261	86.212
5.230	6.237	86.237
5.206	6.213	86.262
5.182	6.189	86.287
5.158	6.165	86.312
5.134	6.141	86.337
5.110	6.117	86.362
5.086	6.093	86.387
5.062	6.069	86.412
5.038	6.045	86.437
5.014	6.021	86.462
4.990	5.997	86.487
4.966	5.973	86.512
4.942	5.949	86.537
4.918	5.925	86.562
4.894	5.901	86.587
4.870	5.877	86.612
4.846	5.853	86.637
4.822	5.829	86.662
4.798	5.805	86.687
4.774	5.781	86.712
4.750	5.757	86.737
4.726	5.733	86.762
4.702	5.709	86.787
4.678	5.685	86.812
4.654	5.661	86.837
4.630	5.637	86.862
4.606	5.613	86.887
4.582	5.589	86.912
4.558	5.565	86.937
4.534	5.541	86.962
4.510	5.517	86.987
4.486	5.493	87.012
4.462	5.469	87.037
4.438	5.445	87.062
4.414	5.421	87.087
4.390	5.397	87.112
4.366	5.373	87.137
4.342	5.349	87.162
4.318	5.325	87.187
4.294	5.301	87.212
4.270	5.277	87.237
4.246	5.253	87.262
4.222	5.229	87.287
4.198	5.205	87.312
4.174	5.181	87.337
4.150	5.157	87.362
4.126	5.133	87.387
4.102	5.109	87.412
4.078	5.085	87.437
4.054	5.061	87.462
4.030	5.037	87.487
4.006	5.013	87.512
3.982	4.989	87.537
3.958	4.965	87.562
3.934	4.941	87.587
3.910	4.917	87.612
3.886	4.893	87.637
3.862	4.869	87.662
3.838	4.845	87.687
3.814	4.821	87.712
3.790	4.797	87.737
3.766	4.773	87.762
3.742	4.749	87.787
3.718	4.725	87.812
3.694	4.701	87.837
3.670	4.677	87.862
3.646	4.653	87.887
3.622	4.629	87.912
3.598	4.605	87.937
3.574	4.581	87.962
3.550	4.557	87.987
3.526	4.533	88.012
3.502	4.509	88.037
3.478	4.485	88.062
3.454	4.461	88.087
3.430	4.437	88.112
3.406	4.413	88.137
3.382	4.389	88.162
3.358	4.365	88.187
3.334	4.341	88.212
3.310	4.317	88.237
3.286	4.293	88.262
3.262	4.269	88.287
3.238	4.245	88.312
3.214	4.221	88.337
3.190	4.197	88.362
3.166	4.173	88.387
3.142	4.149	88.412
3.118	4.125	88.437
3.094	4.101	88.462
3.070	4.077	88.487
3.046	4.053	88.512
3.022	4.029	88.537
3.000	4.005	88.562
2.976	3.981	88.587
2.952	3.957	88.612
2.928	3.933	88.637
2.904	3.909	88.

S			A	B	C
+87°	11'	50"	+16.738	- 11.750	- 20.451
		40	16.722	11.738	20.430
		30	16.706	11.726	20.410
		20	16.690	11.713	20.390
		10	16.674	11.701	20.370
		0	16.658	11.689	20.350-
	10	50	16.642	11.676	20.330
		40	16.627	11.664	20.310
		30	16.611	11.652	20.290
		20	16.595+	11.639	20.270
		10	16.579	11.627	20.250
		00	16.564	11.615+	20.230
+86	38	0	14.032	9.646	17.028
+86	37	50	14.021	9.638	17.014
		40	14.010	9.629	17.000
		30	13.999	9.621	16.986
		20	13.988	9.612	16.972
		10	13.977	9.603	16.958
		0	13.966	9.595	16.945-
	36	50	13.955+	9.586	16.931
		40	13.944	9.578	16.917
		30	13.933	9.569	16.903
		20	13.922	9.561	16.889
		10	13.912	9.552	16.875+
		0	13.901	9.544	16.862
+85°	52'		11.537	7.706	13.874
	51		11.493	7.672	13.818
	50		11.449	7.638	13.763
	49		11.406	7.604	13.708
	48		11.363	7.570	13.654
	47		11.321	7.537	13.600
	46		11.278	7.504	13.547
	45		11.236	7.472	13.494
	44		11.195-	7.439	13.441
	43		11.153	7.407	13.389
	42		11.112	7.375+	13.337
	41		11.072	7.344	13.286
	40		11.031	7.312	13.235-
	39		10.991	7.281	13.184
	38		10.951	7.250	13.134
	37		10.912	7.220	13.084
	21		10.319	6.758	12.355+
	20		+10.284	- 6.731	- 12.291

6		A	B	C
+85°	19'	+10.250	- 6.704	- 12.248
	18	10.215+	6.678	12.204
	17	10.181	6.651	12.161
	16	10.147	6.625	12.119
	15	10.114	6.599	12.076
	14	10.080	6.573	12.034
+84	5	8.231	5.134	9.701
	4	8.209	5.118	9.674
	3	8.188	5.101	9.647
	2	8.167	5.084	9.620
	1	8.145+	5.068	9.593
	0	8.124	5.052	9.567
+83	59	8.103	5.035+	9.540
	58	8.083	5.019	9.514
	57	8.062	5.003	9.488
	56	8.041	4.987	9.462
	55	8.021	4.971	9.436
	54	8.000	4.955+	9.411
	53	7.980	4.939	9.385
	52	7.960	4.924	9.360
	51	7.940	4.808	9.334
	50	7.920	4.893	9.309
	49	7.900	4.877	9.284
	10	7.201	4.334	8.405-
	9	7.185	4.321	8.384
	8	7.169	4.309	8.364
	7	7.153	4.296	8.344
	6	7.137	4.284	8.324
	5	7.121	4.271	8.304
	4	7.105+	4.259	8.284
	3	7.090	4.247	8.264
	2	7.074	4.235-	8.245-
	1	7.058	4.223	8.225
	0	7.043	4.211	8.206
+82	59	7.027	4.199	8.186
	58	7.012	4.187	8.167
	57	6.997	4.175-	8.148
	56	6.982	4.163	8.128
	55	6.966	4.151	8.109
	17	6.439	3.741	7.447
	16	+6.427	- 3.731	- 7.431

8	A	B	C
+85°	10.080	8.248	18.034
	10.114	8.235	18.075
	10.147	8.222	18.119
	10.181	8.209	18.161
	10.215	8.196	18.204
	+10.249	8.184	- 18.248
+84°	8.134	8.092	9.267
	8.145+	8.088	9.293
	8.167	8.084	9.320
	8.199	8.101	9.347
	8.232	8.118	9.374
	8.261	8.134	9.401
+83°	8.103	8.037	9.340
	8.083	8.019	9.314
	8.063	8.002	9.288
	8.041	7.987	9.262
	8.021	7.971	9.236
	8.000	7.954	9.211
	7.980	7.937	9.185
	7.960	7.920	9.159
	7.940	7.902	9.133
	7.920	7.885	9.107
	7.900	7.867	9.081
	7.871	7.851	9.055
	7.851	7.831	9.029
	7.831	7.811	9.003
	7.811	7.791	8.977
	7.791	7.771	8.951
	7.771	7.751	8.925
	7.751	7.731	8.899
	7.731	7.711	8.873
	7.711	7.691	8.847
	7.691	7.671	8.821
	7.671	7.651	8.795
	7.651	7.631	8.769
	7.631	7.611	8.743
	7.611	7.591	8.717
	7.591	7.571	8.691
	7.571	7.551	8.665
	7.551	7.531	8.639
	7.531	7.511	8.613
	7.511	7.491	8.587
	7.491	7.471	8.561
	7.471	7.451	8.535
	7.451	7.431	8.509
	7.431	7.411	8.483
	7.411	7.391	8.457
	7.391	7.371	8.431
	7.371	7.351	8.405
	7.351	7.331	8.379
	7.331	7.311	8.353
	7.311	7.291	8.327
	7.291	7.271	8.301
	7.271	7.251	8.275
	7.251	7.231	8.249
	7.231	7.211	8.223
	7.211	7.191	8.197
	7.191	7.171	8.171
	7.171	7.151	8.145
	7.151	7.131	8.119
	7.131	7.111	8.093
	7.111	7.091	8.067
	7.091	7.071	8.041
	7.071	7.051	8.015
	7.051	7.031	7.989
	7.031	7.011	7.963
	7.011	6.991	7.937
	6.991	6.971	7.911
	6.971	6.951	7.885
	6.951	6.931	7.859
	6.931	6.911	7.833
	6.911	6.891	7.807
	6.891	6.871	7.781
	6.871	6.851	7.755
	6.851	6.831	7.729
	6.831	6.811	7.703
	6.811	6.791	7.677
	6.791	6.771	7.651
	6.771	6.751	7.625
	6.751	6.731	7.599
	6.731	6.711	7.573
	6.711	6.691	7.547
	6.691	6.671	7.521
	6.671	6.651	7.495
	6.651	6.631	7.469
	6.631	6.611	7.443
	6.611	6.591	7.417
	6.591	6.571	7.391
	6.571	6.551	7.365
	6.551	6.531	7.339
	6.531	6.511	7.313
	6.511	6.491	7.287
	6.491	6.471	7.261
	6.471	6.451	7.235
	6.451	6.431	7.209
	6.431	6.411	7.183
	6.411	6.391	7.157
	6.391	6.371	7.131
	6.371	6.351	7.105
	6.351	6.331	7.079
	6.331	6.311	7.053
	6.311	6.291	7.027
	6.291	6.271	7.001
	6.271	6.251	6.975
	6.251	6.231	6.949
	6.231	6.211	6.923
	6.211	6.191	6.897
	6.191	6.171	6.871
	6.171	6.151	6.845
	6.151	6.131	6.819
	6.131	6.111	6.793
	6.111	6.091	6.767
	6.091	6.071	6.741
	6.071	6.051	6.715
	6.051	6.031	6.689
	6.031	6.011	6.663
	6.011	5.991	6.637
	5.991	5.971	6.611
	5.971	5.951	6.585
	5.951	5.931	6.559
	5.931	5.911	6.533
	5.911	5.891	6.507
	5.891	5.871	6.481
	5.871	5.851	6.455
	5.851	5.831	6.429
	5.831	5.811	6.403
	5.811	5.791	6.377
	5.791	5.771	6.351
	5.771	5.751	6.325
	5.751	5.731	6.299
	5.731	5.711	6.273
	5.711	5.691	6.247
	5.691	5.671	6.221
	5.671	5.651	6.195
	5.651	5.631	6.169
	5.631	5.611	6.143
	5.611	5.591	6.117
	5.591	5.571	6.091
	5.571	5.551	6.065
	5.551	5.531	6.039
	5.531	5.511	6.013
	5.511	5.491	5.987
	5.491	5.471	5.961
	5.471	5.451	5.935
	5.451	5.431	5.909
	5.431	5.411	5.883
	5.411	5.391	5.857
	5.391	5.371	5.831
	5.371	5.351	5.805
	5.351	5.331	5.779
	5.331	5.311	5.753
	5.311	5.291	5.727
	5.291	5.271	5.701
	5.271	5.251	5.675
	5.251	5.231	5.649
	5.231	5.211	5.623
	5.211	5.191	5.597
	5.191	5.171	5.571
	5.171	5.151	5.545
	5.151	5.131	5.519
	5.131	5.111	5.493
	5.111	5.091	5.467
	5.091	5.071	5.441
	5.071	5.051	5.415
	5.051	5.031	5.389
	5.031	5.011	5.363
	5.011	4.991	5.337
	4.991	4.971	5.311
	4.971	4.951	5.285
	4.951	4.931	5.259
	4.931	4.911	5.233
	4.911	4.891	5.207
	4.891	4.871	5.181
	4.871	4.851	5.155
	4.851	4.831	5.129
	4.831	4.811	5.103
	4.811	4.791	5.077
	4.791	4.771	5.051
	4.771	4.751	5.025
	4.751	4.731	5.000
	4.731	4.711	4.974
	4.711	4.691	4.948
	4.691	4.671	4.922
	4.671	4.651	4.896
	4.651	4.631	4.870
	4.631	4.611	4.844
	4.611	4.591	4.818
	4.591	4.571	4.792
	4.571	4.551	4.766
	4.551	4.531	4.740
	4.531	4.511	4.714
	4.511	4.491	4.688
	4.491	4.471	4.662
	4.471	4.451	4.636
	4.451	4.431	4.610
	4.431	4.411	4.584
	4.411	4.391	4.558
	4.391	4.371	4.532
	4.371	4.351	4.506
	4.351	4.331	4.480
	4.331	4.311	4.454
	4.311	4.291	4.428
	4.291	4.271	4.402
	4.271	4.251	4.376
	4.251	4.231	4.350
	4.231	4.211	4.324
	4.211	4.191	4.298
	4.191	4.171	4.272
	4.171	4.151	4.246
	4.151	4.131	4.220
	4.131	4.111	4.194
	4.111	4.091	4.168
	4.091	4.071	4.142
	4.071	4.051	4.116
	4.051	4.031	4.090
	4.031	4.011	4.064
	4.011	3.991	4.038
	3.991	3.971	4.012
	3.971	3.951	3.986
	3.951	3.931	3.960
	3.931	3.911	3.934
	3.911	3.891	3.908
	3.891	3.871	3.882
	3.871	3.851	3.856
	3.851	3.831	3.830
	3.831	3.811	3.804
	3.811	3.791	3.778
	3.791	3.771	3.752
	3.771	3.751	3.726
	3.751	3.731	3.700
	3.731	3.711	3.674
	3.711	3.691	3.648
	3.691	3.671	3.622
	3.671	3.651	3.596
	3.651	3.631	3.570
	3.631	3.611	3.544
	3.611	3.591	3.518
	3.591	3.571	3.492
	3.571	3.551	3.466
	3.551	3.531	3.440
	3.531	3.511	3.414
	3.511	3.491	3.388
	3.491	3.471	3.362
	3.471	3.451	3.336
	3.451	3.431	3.310
	3.431	3.411	3.284
	3.411	3.391	3.258
	3.391	3.371	3.232
	3.371	3.351	3.206
	3.351	3.331	3.180
	3.331	3.311	3.154
	3.311	3.291	3.128
	3.291	3.271	3.102
	3.271	3.251	3.076
	3.251	3.231	3.050
	3.231	3.211	3.024
	3.211	3.191	3.000
	3.191	3.171	2.974
	3.171	3.151	2.948
	3.151	3.131	2.922
	3.131	3.111	2.896
	3.111	3.091	2.870
	3.091	3.071	2.844
	3.071	3.051	2.818
	3.051	3.031	2.792
	3.031	3.011	2.766
	3.011	2.991	2.740
	2.991	2.971	2.714
	2.971	2.951	2.688
	2.951	2.931	2.662
	2.931	2.911	2.636
	2.911	2.891	2.610
	2.891	2.871	2.584
	2.871	2.851	2.558
	2.851	2.831	2.532
	2.831	2.811	2.506
	2.811	2.791	2.480
	2.791	2.771	2.454
	2.771	2.751	2.428
	2.751	2.731	2.402
	2.731	2.711	2.376
	2.711	2.691	2.350
	2.691	2.671	2.324
	2.671	2.651	2.298
	2.651	2.631	2.272
	2.631	2.611	2.246
	2.611	2.591	2.220
	2.591	2.571	2.194
	2.571	2.551	2.168
	2.551	2.531	2.142
	2.531	2.511	2.116
	2.511	2.491	2.090
	2.491	2.471	2.064
	2.471	2.451	2.038
	2.451	2.431	2.012
	2.431	2.411	1.986
	2.411	2.391	1.960
	2.391	2.371	1.934
	2.371	2.351	1.908
	2.351	2.331	1.882
	2.331	2.311	1.856
	2.311	2.291	1.830
	2.291	2.271	1.804
	2.271	2.251	1.778
	2.251	2.231	1.752
	2.231	2.211	1.72

LOWER CULMINATION

S		A	B	C
+82°	15'	+6.414	- 3.722	- 7.416
	14	6.402	3.712	7.400
	13	6.389	3.702	7.384
	12	6.376	3.692	7.368
	11	6.364	3.683	7.353
	10	6.352	3.673	7.337
	9	6.339	3.663	7.322
	8	6.327	3.654	7.306
	7	6.315-	3.644	7.291
	6	6.303	3.635-	7.276
	5	6.291	3.625+	7.260
+81	51	6.126	3.497	7.054
	50	6.114	3.488	7.040
	49	6.103	3.480	7.025+
	48	6.092	3.471	7.011
	47	6.081	3.462	6.997
	46	6.069	3.453	6.983
	45	6.058	3.445-	6.969
	44	6.047	3.436	6.955
	43	6.036	3.427	6.941
	42	6.025-	3.419	6.927
	41	6.014	3.410	6.914
	40	6.003	3.402	6.900
	39	5.992	3.393	6.886
+80	50	5.506	3.015+	6.277
	40	5.417	2.946	6.166
	30	5.331	2.879	6.059
	20	5.248	2.815-	5.955+
	10	5.168	2.752	5.855+
	0	5.091	2.692	5.759
+79	50	5.016	2.634	5.665+
	40	4.943	2.578	5.575-
	30	4.873	2.523	5.487
	20	4.805-	2.470	5.403
	10	4.739	2.419	5.320
	0	4.675-	2.369	5.241
+78	50	4.613	2.321	5.164
	40	4.552	2.274	5.089
	30	4.494	2.228	5.016
	20	4.437	2.184	4.945+
	10	4.381	2.141	4.876
	0	+4.328	- 2.099	- 4.810

C	B	A	D	
			+	-
7.416	3.723	6.414	13	13
7.400	3.713	6.403	14	14
7.384	3.703	6.389	13	13
7.368	3.693	6.376	13	13
7.353	3.683	6.364	11	11
7.337	3.673	6.352	10	10
7.322	3.663	6.339	9	9
7.306	3.654	6.327	8	8
7.291	3.644	6.315	7	7
7.276	3.634	6.303	6	6
7.260	3.624	6.291	5	5
7.054	3.497	6.186	21	21
7.040	3.488	6.174	20	20
7.024	3.478	6.163	19	19
7.011	3.471	6.092	18	18
6.997	3.463	6.081	17	17
6.983	3.453	6.069	16	16
6.969	3.443	6.058	15	15
6.955	3.433	6.047	14	14
6.941	3.424	6.036	13	13
6.927	3.419	6.025	12	12
6.914	3.410	6.014	11	11
6.900	3.403	6.003	10	10
6.886	3.393	5.992	9	9
6.872	3.015	5.806	20	20
6.858	3.006	5.817	19	19
6.844	3.019	5.831	18	18
6.830	3.015	5.848	17	17
6.816	3.006	5.868	16	16
6.802	3.003	5.891	15	15
6.788	3.004	5.916	14	14
6.774	3.003	5.943	13	13
6.760	3.002	5.973	12	12
6.746	3.000	6.005	11	11
6.732	3.000	6.039	10	10
6.718	3.000	6.075	9	9
6.704	3.000	6.113	8	8
6.690	3.000	6.153	7	7
6.676	3.000	6.194	6	6
6.662	3.000	6.236	5	5
6.648	3.000	6.279	4	4
6.634	3.000	6.323	3	3
6.620	3.000	6.368	2	2
6.606	3.000	6.414	1	1
6.592	3.000	6.461	0	0
6.578	3.000	6.509	0	0

S	A	B	C
+ 77° 50'	+ 4.275+	- 2.058	- 4.745-
40	4.224	2.018	4.682
30	4.175-	1.980	4.620
20	4.126	1.942	4.560
10	4.079	1.906	4.502
0	4.033	1.870	4.445+
76 50	3.988	1.835	4.390
40	3.945-	1.801	4.336
30	3.902	1.768	4.284
20	3.860	1.735+	4.232
10	3.820	1.704	4.182
0	3.780	1.673	4.134
75 50	3.741	1.643	4.086
40	3.703	1.613	4.039
30	3.666	1.584	3.994
20	3.630	1.556	3.950
10	3.595-	1.529	3.906
0	3.560	1.502	3.864
74 50	3.526	1.475+	3.822
40	3.493	1.450-	3.782
30	3.460	1.424	3.742
20	3.428	1.400	3.703
10	3.397	1.375+	3.665+
0	3.367	1.352	3.628
73 50	3.337	1.328	3.592
40	3.308	1.306	3.556
30	3.279	1.283	3.521
20	3.251	1.261	3.487
10	3.223	1.240	3.453
0	3.196	1.219	3.420
72 50	3.169	1.198	3.388
40	3.143	1.178	3.356
30	3.117	1.158	3.326
20	3.092	1.138	3.296
10	3.068	1.119	3.265+
0	3.043	1.100	3.236
+ 71° 50	3.020	1.082	3.207
40	2.996	1.063	3.179
30	2.973	1.045+	3.152
20	2.950+	1.028	3.124
10	2.928	1.011	3.098
0	+ 2.906	- 0.994	- 3.072

A	B	C	D
0	1.870	4.445	4.445
10	1.908	4.508	4.508
20	1.945	4.560	4.560
30	1.982	4.612	4.612
40	2.019	4.664	4.664
50	2.056	4.716	4.716
60	2.093	4.768	4.768
70	2.130	4.820	4.820
80	2.167	4.872	4.872
90	2.204	4.924	4.924
100	2.241	4.976	4.976
110	2.278	5.028	5.028
120	2.315	5.080	5.080
130	2.352	5.132	5.132
140	2.389	5.184	5.184
150	2.426	5.236	5.236
160	2.463	5.288	5.288
170	2.500	5.340	5.340
180	2.537	5.392	5.392
190	2.574	5.444	5.444
200	2.611	5.496	5.496
210	2.648	5.548	5.548
220	2.685	5.600	5.600
230	2.722	5.652	5.652
240	2.759	5.704	5.704
250	2.796	5.756	5.756
260	2.833	5.808	5.808
270	2.870	5.860	5.860
280	2.907	5.912	5.912
290	2.944	5.964	5.964
300	2.981	6.016	6.016
310	3.018	6.068	6.068
320	3.055	6.120	6.120
330	3.092	6.172	6.172
340	3.129	6.224	6.224
350	3.166	6.276	6.276
360	3.203	6.328	6.328
370	3.240	6.380	6.380
380	3.277	6.432	6.432
390	3.314	6.484	6.484
400	3.351	6.536	6.536
410	3.388	6.588	6.588
420	3.425	6.640	6.640
430	3.462	6.692	6.692
440	3.499	6.744	6.744
450	3.536	6.796	6.796
460	3.573	6.848	6.848
470	3.610	6.900	6.900
480	3.647	6.952	6.952
490	3.684	7.004	7.004
500	3.721	7.056	7.056
510	3.758	7.108	7.108
520	3.795	7.160	7.160
530	3.832	7.212	7.212
540	3.869	7.264	7.264
550	3.906	7.316	7.316
560	3.943	7.368	7.368
570	3.980	7.420	7.420
580	4.017	7.472	7.472
590	4.054	7.524	7.524
600	4.091	7.576	7.576
610	4.128	7.628	7.628
620	4.165	7.680	7.680
630	4.202	7.732	7.732
640	4.239	7.784	7.784
650	4.276	7.836	7.836
660	4.313	7.888	7.888
670	4.350	7.940	7.940
680	4.387	7.992	7.992
690	4.424	8.044	8.044
700	4.461	8.096	8.096
710	4.498	8.148	8.148
720	4.535	8.200	8.200
730	4.572	8.252	8.252
740	4.609	8.304	8.304
750	4.646	8.356	8.356
760	4.683	8.408	8.408
770	4.720	8.460	8.460
780	4.757	8.512	8.512
790	4.794	8.564	8.564
800	4.831	8.616	8.616
810	4.868	8.668	8.668
820	4.905	8.720	8.720
830	4.942	8.772	8.772
840	4.979	8.824	8.824
850	5.016	8.876	8.876
860	5.053	8.928	8.928
870	5.090	8.980	8.980
880	5.127	9.032	9.032
890	5.164	9.084	9.084
900	5.201	9.136	9.136
910	5.238	9.188	9.188
920	5.275	9.240	9.240
930	5.312	9.292	9.292
940	5.349	9.344	9.344
950	5.386	9.396	9.396
960	5.423	9.448	9.448
970	5.460	9.500	9.500
980	5.497	9.552	9.552
990	5.534	9.604	9.604
1000	5.571	9.656	9.656

LOWER CULMINATION

S		A	B	C
+70°	50'	+2.885-	- 0.977	- 3.046
	40	2.864	0.960	3.021
	30	2.843	0.944	2.996
	20	2.823	0.928	2.971
	10	2.802	0.913	2.947
	0	2.783	0.897	2.924
69	50	2.763	0.882	2.901
	40	2.744	0.867	2.878
	30	2.725+	0.853	2.855+
	20	2.707	0.838	2.833
	10	2.688	0.824	2.812
	0	2.670	0.810	2.790
68	50	2.653	0.796	2.769
	40	2.635+	0.783	2.749
	30	2.618	0.769	2.729
	20	2.601	0.756	2.709
	10	2.584	0.743	2.689
	0	2.568	0.730	2.669
67	50	2.551	0.717	2.650
	40	2.535+	0.705	2.632
	30	2.520	0.693	2.613
	20	2.504	0.681	2.595-
	10	2.489	0.669	2.577
	0	2.474	0.657	2.559
66	50	2.459	0.645+	2.542
	40	2.444	0.634	2.525-
	30	2.429	0.623	2.508
	20	2.415	0.611	2.491
	10	2.401	0.600	2.475-
	0	2.387	0.590	2.459
65	50	2.373	0.579	2.443
	40	2.359	0.568	2.427
	30	2.346	0.558	2.411
	20	2.333	0.547	2.396
	10	2.320	0.537	2.381
	0	2.307	0.527	2.366
+64°	50'	2.294	0.517	2.352
	40	2.281	0.507	2.337
	30	2.269	0.498	2.323
	20	2.257	0.488	2.309
	10	2.244	0.479	2.295-
	0	+2.232	- 0.469	- 2.281

C	B	A	S	
			+	°
2.046	- 0.277	+ 2.882	20	+
2.021	0.260	2.864	40	
2.992	0.244	2.843	30	
2.971	0.228	2.822	20	
2.947	0.213	2.802	10	
2.924	0.197	2.783	0	
2.901	0.182	2.763	20	20
2.878	0.167	2.744	40	
2.855+	0.152	2.725+	30	
2.833	0.138	2.707	20	
2.812	0.124	2.688	10	
2.790	0.110	2.670	0	
2.769	0.196	2.652	20	20
2.743	0.182	2.633+	40	
2.723	0.169	2.616	30	
2.702	0.156	2.601	20	
2.682	0.143	2.584	10	
2.662	0.130	2.568	0	
2.640	0.117	2.551	20	20
2.622	0.105	2.533+	40	
2.613	0.093	2.520	30	
2.592-	0.081	2.504	20	
2.577	0.069	2.489	10	
2.562	0.057	2.474	0	
2.543	0.045+	2.459	20	20
2.522-	0.034	2.444	40	
2.502	0.023	2.429	30	
2.481	0.011	2.413	20	
2.472-	0.000	2.401	10	
2.452	0.990	2.387	0	
2.442	0.979	2.373	20	20
2.427	0.968	2.359	40	
2.411	0.958	2.346	30	
2.396	0.947	2.333	20	
2.381	0.937	2.320	10	
2.366	0.927	2.307	0	
2.352	0.917	2.294	20	+
2.337	0.907	2.281	40	
2.323	0.898	2.269	30	
2.309	0.888	2.257	20	
2.292-	0.879	2.244	10	
2.281	- 0.869	+ 2.232	0	

LOWER CULMINATION

S	A	B	C
+ 63° 50'	2.220	- 0.460	- 2.268
40	2.209	0.451	2.254
30	2.197	0.442	2.241
20	2.186	0.433	2.229
10	2.174	0.424	2.215+
0	2.163	0.415+	2.203
62 50	2.152	0.407	2.190
40	2.141	0.398	2.178
30	2.130	0.390	2.166
20	2.120	0.382	2.154
10	2.109	0.373	2.142
0	2.099	0.365+	2.130
61 50	2.088	0.357	2.118
40	2.078	0.349	2.107
30	2.068	0.341	2.096
20	2.058	0.334	2.085-
10	2.048	0.326	2.074
0	2.038	0.318	2.063
+ 60° 50'	2.028	0.311	2.052
40	2.019	0.303	2.041
30	2.009	0.296	2.031
20	2.000	0.288	2.020
10	1.990	0.281	2.010
0	+ 1.981	- 0.274	- 2.000

0	B	A	8
3.388	0.460	3.380	80' + 02
3.384	0.461	3.382	40
3.381	0.462	3.383	30
3.383	0.463	3.380	30
3.382	0.464	3.384	10
3.385	0.465	3.385	0
3.380	0.467	3.385	20
3.388	0.468	3.381	40
3.386	0.469	3.380	30
3.384	0.470	3.380	30
3.383	0.473	3.382	10
3.380	0.475	3.383	0
3.388	0.477	3.388	20
3.387	0.478	3.389	40
3.380	0.481	3.388	30
3.389	0.484	3.388	30
3.386	0.485	3.388	10
3.383	0.488	3.388	0
3.385	0.491	3.383	20' + 00
3.381	0.493	3.383	40
3.381	0.496	3.389	30
3.380	0.488	3.390	30
3.380	0.481	1.390	10
3.390	0.474	1.391	0

NON CIRCULATING

